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ABSTRACT

This study assessed the performance of first-year teachers trained through the U. S. Office of Education Career Opportunities Program (COP) and a matched group of first-year teachers in the same school building and grade, but not trained through COP. The study was conducted during the 1974-75 school year at 15 sites across the country, which were drawn as a stratified sample of the 132 COP projects nationwide. A variety of instruments were used to obtain a comprehensive picture of the participants in terms of personal characteristics, attitudes, classroom behavior, and impact upon pupils. The results showed that the COP trained teacher was more likely to have a more positive attitude toward teaching, be more socially oriented, have more vigor, be more original in thought, and receive a higher rating from the principal based on his/her work in the classroom. He/she was more supportive of student initiated talk and less likely to ask questions soliciting rote responses. The children whom the COP-trained teacher taught had a more positive self-concept, their parents viewed their attitudes toward school more positively, and the children performed better on standardized achievement tests. Although many of the differences between the COP trained and non-COP trained teachers are small, the pattern of differences is clear and consistent. (A summary of the study is included.) (Author)

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A COMPARATIVE STUDY OF CAREER OPPORTUNITIES PROGRAM GRADUATES AS FIRST-YEAR TEACHERS

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Alan Gartner

November 1975

Introduction

The Career Opportunities Program

The decade of the 1960s was marked by dramatic shifts in the role played by the federal government in education. Building upon the limited increase in the federal government's role in the post-Sputnik era, the attention ultimately given to the education of low-income children represented the most significant federal role in the nation's educational history. Primarily through the various titles of the Elementary and Secondary Education Act (ESEA) of 1965, the federal government came to be a major partner along with the states and the local school districts.

The largest section of ESEA, Title I, was primarily concerned with providing distinct educational services to children. In 1967, with the passage of the Education Professions Development Act (EPDA), the federal role in the preparation of educational personnel took on for the first time significant dimensions. Heretofore, there had been only limited activities through various fellowship and institute training programs, and with the then two-year-old Teacher Corps. With the passage of EPDA, an instrument was provided which allowed for short- and long-term training for persons from paraprofessionals to school superintendents, as well as for college faculty.

While the Education Professions Development Act provided for a variety of specific activities (including the extension of the Teacher Corps), it also provided far-reaching and broad general authority, notably in Part D, for the establishment of new programs. The Career Opportunities Program, formally begun in 1970, is a product of that broad authority for there is no mention of it -- or of any program like it -- in the language of the Education Professions Development Act. In that sense, it was the product of the Office of Education rather than of explicitly expressed Congressional intent.

A number of factors provided background to and impetus for the establishment of the Career Opportunities Program. Among these were:

--the perception in the middle and late 1960s of a present (and growing) teacher shortage, especially in and for schools serving the poor;
--the recognition that the educational needs of low-income children were not being met by the schools as then staffed;
--the broader sense of the inadequacy of the ways schools in general were staffed;
--the positive experience of the early 1960s with the employment of community-based paraprofessionals, particularly in the antipoverty program but also in schools; and
--the growing belief that the then-present designs of teacher education were inadequate, particularly in preparing teachers for the children of the poor.

A new organizational entity, the Bureau of Educational Personnel Development (BEPD), was established to implement various of the programs established by the new EPDA. To Don Davies, the first head of BEPD, who had most recently headed the National Education Association's Teacher Education and Professional Standards Commission, the work of the new Bureau was to be based upon a series of clear precepts and judgments along the following lines:

--Attention was to be focused mainly upon the needs of the children of the poor, the minorities, the alienated. And, in doing this, priority attention was to be given to efforts designed to strengthen the self- and group-identity of these persons.
--Training programs were to be an instrument of and a catalyst for educational change. The Bureau of Educational Personnel Development was not to be an agency to provide more staff to do the same old things in the schools.

--A key element in changing the schools was to be found in bringing into them new and different persons to play both old and new roles.
--Relationships among the important institutional participants (schools, colleges, communities being served) were to be based upon "parity" or, as BEPD spokespersons put it, "mutual and collaborative decision-making" involving all participants in the educational process."[1]

Basically, the Career Opportunities Program was a program of the U.S. Office of Education,which made grants to local school systems with the concurrence of the respective state departments of education to provide on-the-job training and college education to paraprofessionals working in schools serving low-income children. The participants would thereby mount a career ladder, earn a baccalaureate degree, and become eligible for a teacher's license. The training was provided in the schools by cooperating teachers, supervisory personnel, and Career Opportunities Program project staff, while the formal education was provided by a local college or university through a subcontract from the local Career Opportunities Program project. With increased experience, training, and education, participants were expected both to become better teacher aides and, in most cases, to assume greater responsibility and status in the school system. At the end of the program and with a degree and a teacher's license having been earned, a process that usually took about four to five years for a person beginning with no previous college experience, the participant was available for employment as a full-fledged teacher.

In the seven years of its existence (FY 1969 through FY 1976), the Career Opportunities Program will have involved over 14,000 participants in nearly 150 school districts.[2] Of the participants, 56 percent were Black, 15 percent Spanish-speaking (four-fifths of them Chicano), three percent Native American, and 26 percent white. Four-fifths were women, with nearly 60 percent of them over 35 years of age. Of the 20 percent male population, 60 percent were between 25 and 34 years of age. The clustering of men in the lower age group reflects the influence of the more than 10 percent of the participants who were Vietnam-era veterans.

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[1] Don Davies, "EPDA: An Inside Perspective," COP Bulletin, II, 5 (1975).

With the exception of the Teacher Corps, the Career Opportunities Program was the largest program of the Education Professions Development Act in each of its five prime years. In those years, its expenditures ranged from $21.6 million to $26.1 million. Over the full seven years (FY 1969 through FY 1976), the total federal expenditure was $129,390,000.

Although all of the data are not yet in (the bulk of nearly 150 projects concluded during the summer of 1975, a few had finished in 1974, and the last 12 are scheduled to finish in the summer of 1976), one can identify effects upon both individuals and institutions.

It is always difficult, of course, to assign direct causal effect for change in complex institutions and social organizations. Clearly, the Career Opportunities Program was not alone in promoting changes in access to higher education, the nature of the program for the professional preparation of teachers, the increased involvement of the community in school matters, and in the development of more complex staffing patterns for schools. It was, however, an important force in all of these areas, more so in some COP projects than in others, more so in achieving one or another of these goals than others.

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[2] As this document is written (November 1975), a dozen COP projects are in their last regular year, while a score or so are completing extensions of grants which formally terminated in June 1975. The overall data presented here and elsewhere (unless otherwise noted) are derived from reports prepared for the U.S. Office of Education by Public Systems, Incorporated. The most complete of these was published in 1974 (based on data collected in 1972, corrected but not updated in 1973). The most up-to-date of the reports, based on a sample study of 36 projects, is dated 1975.

On access to higher education, the Career Opportunities Program was part of a broad array of forces pushing to break the near-monopoly of the young, white, middle- and upper-class full-time student. The Career Opportunities Program was unique in bringing to the colleges large numbers of students who were older and also workers.

Similarly, the Career Opportunities Program was only one of the forces working for changes in teacher education which would make it field-based, more inductive in curricula design, and more heavily focused upon demonstrable classroom competency. The special character of COP derived from the fullness of the field base, for the COP participants in the colleges' teacher education programs were simultaneously full-time classroom workers.

Not only were the Career Opportunities Program participants both workers in the school and students at the local college or university, they were also members of the community served by the school. Thus, the efforts of the Career Opportunities Program to develop increased community involvement in the school was not alone the work of a lay council seeking to play a governance role but, in the presence of the participants, community involvement was at the very essence of each Career Opportunities Program project.

The employment of paraprofessionals in schools had preceded the Career Opportunities Program, and, during its existence, extended far beyond it; the Career Opportunities Program participants accounted for fewer than five percent of the paraprofessionals in all schools.[5] What was special and unique about the Career Opportunities Program in this regard was the fact that from their entry into the Career Opportunities Program, participants were engaged in activities directly related to pupil learning (and not shunted off to clerical or monitoring roles), and that the COP design was not a static staff differentiation model. Rather, individual participants were involved in a career development design moving from entry-level paraprofessional positions to licensed teachers. And as the Career Opportunities Program emphasized the utilization of paraprofessionals in roles of substantial involvement in the teaching/learning process, it, of necessity (as well as plan), affected the activities of the teachers in the classrooms. And the net result of both these sets of activities was increased individualization of instruction for children.

COP was designed to serve low-income and minority adults. Nearly nine-tenths of those enrolled were members of low-income families and some seven-tenths were non-white. The continuing shortage of teachers with such backgrounds is seen, for example, in Alaska where 95 percent of the children in the state-operated schools are Native (Aleut, Eskimo, or Indian), while 99 percent of the teachers at the start of the COP

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[3] Jorie Lester Mark, "Training and Utilization of Paraprofessionals: A Study of the Nation's Public School Systems Enrolling 5,000 or More Pupils," Unpublished Dissertation, Graduate School of Education, University of Massachusetts, 1975, pp. 221, 252.

project were non-Native. Similarly, on the Crow and Northern Cheyenne Reservations in Montana, only five of the 210 certified teachers in 1970 were Indians. At their conclusion, the Alaska Career Opportunities Program (run in concert with the Teacher Corps) will have quintupled the number of Native teachers, while the project serving the Crow and Northern Cheyenne will have increased the number of Indian teachers tenfold.

As college students, the Career Opportunities Program participants performed with distinction. In most traditional ways, they were "high risk" college students -- older, non-white, long out of school, sometimes school dropouts, full-time workers, persons with family responsibilities. At college after college, they more than held their own -- with dropout rates lower and grade point averages higher than the traditional young, white, middle- and upper-class full-time students.

The graduates of the Career Opportunities Program projects were being hired by local school districts, even at a time of alleged teacher glut. While local school districts agreed to do so at the start of the project, it is less this agreement and more such factors as the personal characteristics of the COP participants, the quality of performance of the participants (the school districts, of course, have had an opportunity to observe the participants over the course of their several years in the program), and the role of participants as community residents which account for the hiring.

The effects of individual COP projects are being assessed in terms of impact both upon institutions and individuals.[4] All this, of course, involves the process of the program. It is, however, to the effect of the Career Opportunities Program after the participants' completion of the program that this study is directed.

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[4] Each project is required to carry out an overall review of its five years of activity. Also, several of the 10 U.S. Office of Education regional offices are conducting studies, as are many of the 48 state departments of education. The New Careers Training Laboratory, Queens College, has prepared a history of the Career Opportunities Program, and is collecting various program materials for a final collection of Career Opportunities Program products. And the Division of Education Systems Development under the direction of Dr. Thomas Carter is conducting an assessment of "lessons learned" from the various programs created under the authority of the Education Professions Development Act, including the Career Opportunities Program. The study is under the direction of Dr. Doxie Wilkerson.

The Study

The effect of COP, of course, was not to end with the conclusion of the participants' enrollment in it. Indeed, only after completion, that is, when the successful participant had become a teacher was the real test of the program at hand. For only then could one attend to the twin set of questions, namely, "What kind of teachers had the COP graduates become?" and "With what impact upon children?" It is to this pair of questions that a grant awarded by USOE to the New Careers Training Laboratory, Queens College, was directed.[5] This report is a record of the work carried out under this grant and a report of the findings of that effort.

The proposal called for the evaluation activities to focus upon an investigation of the impact of the COP graduates along three related but separate axes. These axes are:

1. The Person - the behavior of the COP graduate;
2. The Process - observations of the COP graduates performance in the classroom; and
3. The Product - the effects of the COP graduates upon their pupils.

The first axis, The Person, is an examination of personal, demographic and teacher training information concerning the participants. For the sake of establishing a basis of comparison, a control group of beginning, non-COP trained teachers was sought at each of the fifteen school districts where the study was conducted. (See Chapter 2, Part B, for a description of these sites and how they were selected.) They were compared with the COP-trained teachers along each of the three axes.

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[5] Grant number OEG 0-73-2933, 1 July 1974 to 30 September 1975.

The second axis, The Process, deals with an investigation of the ways that the graduates interrelated with students, supervisors, and parents. The major thrust of this component was an investigation of teaching techniques.

The third axis, The Product, deals with the graduates' impact upon students. The instruments used in this axis collected data as to the students' attendance, behavior as perceived by parents, pupils' self-image, and cognitive development reflected in standardized achievement tests.

It is important at the outset to clarify both what this effort is and what it is not. It is not a study of the activities, effect, and consequences of the COP program as a whole; it is a study of an aspect, albeit an important one, of COP. It is not an examination of all COP graduates who became teachers; it is a study of graduates at 15 selected projects. As demonstrated below, these 15 can be fairly considered as representative of the total COP universe, but they are neither all of the projects nor a random sample of all projects nor of all graduates. The study is limited, furthermore, in the behaviors of the graduates and the effects upon their pupils which were actually studied. And, these behaviors and effects were studied in a fixed time period, during the course of the 1974-75 academic year with a specific cohort of graduates.

These limitations were intrinsic to the design of the evaluation. There were additional limitations, discussed more fully below, which were a function of the conditions under which the study was conducted. Three such constraints merit early mention: participation both by school districts and individuals (COP-trained teachers, the "matched" non-COP trained first-year teachers, and the pupils in the classes of both the COP and non-COP teachers) was voluntary; the project was carried out just as school districts were struggling to understand the meaning and carry out the intent of the "Buckley Amendment";[6] there were no funds for the employment of personnel onsite at the 15 projects, a condition that forced hearvy reliance upon the COP project directors in these locations.[7]

These circumstances recognized, we submit this report convinced that its findings provide unique and important data as to COP, both for the 15 projects and as a whole. And as a whole, COP was a substantial program. There were over 14,000 participants at some 150 school districts in 48 states. During its five main years, FY 1970 through FY 1975, COP was the largest program to be designed and implemented under the authority of the Education Professions Development Act, accounting during those years for between a quarter and a third of the total EPDA funding.

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[6] The full title of the law is "The Family Educational Rights and Privacy Act."

[7] These directors were helpful in ways far beyond any obligation they may have had. Indeed, cooperation with our project was beyond their already heavy responsibilities. It is no disservice to the level and quality of this cooperation, however, to note that the absence of site-based project staff was a factor which made more difficult the crucial task of data collection.

And the COP participants represented a significant portion both of paraprofessionals attending college,[8] and of non-whites in teacher training programs.[9] The data thus warrant attention in the consideration of broader issues of teacher selection and training, education for the human services in general, and of recurrent or lifelong education.

+ + +

The study, then, merits attention beyond that usually attending a report on a federal program. First of all, the Career Opportunities Program was both a large and unique effort. Its size has already been described. Its uniqueness is involved in the participants -- low-income adults, the majority of whom were non-white; in the field-based teacher education design; in the career ladder/lattice scheme. With increased attention to (and questioning of) teacher education, indeed, of how well the schools as a whole are performing, the findings of this study offer important data toward the issues both as to who should be selected as teachers and how they should be trained. And, with growing consideration of lifelong education, the COP experience represents an important body of data, unique as to the participants. Finally, notwithstanding the limitations intrinsic to the study, it is one of the few studies to look at the effect of a training program for human services in terms of output -- that is, the performance of program graduates as professionals; it is further unique in doing so (again recognizing the design limitations) using a "control group."

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[8] Based on surveys in 1971-72 and 1972-73 of school districts enrolling 5,000 or more pupils, Mark reports that "a mere 25,394 paraprofessionals, less than one-sixth of those under study, were enrolled [in colleges]. Mark, op cit. For our purposes, it is hard to know what to make of this figure, as nearly 40% of the school systems surveyed failed to reply to the questionnaire and, further, of those who did return the questionnaire, 86 are COP projects (but the portion of the 25,394 represented by these is not revealed). While exact figures are not known, it does seem true that the 9,000 COP participants during 1971-72 or 1972-73, all of whom were enrolled in colleges, represent a substantial proportion of all paraprofessionals attending college.

[9] During the COP years, about 70,000 non-whites were enrolled in teacher training programs. Thus COP's approximately 6,800 non-whites would represent close to 10% of that figure.

The Project Plan

Background

The proposal submitted by the New Careers Training Laboratory (NCTL), Queens College, which was the basis of the USOE grant award, proposed a sample study of COP graduates as first-year teachers. It offered specific ideas as to processes and lines of inquiry. Given its familiarity with the Career Opportunities Program world, NCTL realized from the outset the need for involvement at the local COP project level, the need for coverage by the proposed study across all ten USOE regions, as well as the question of the willingness of projects to participate. Above all, cooperation at the site was crucial. The terms of the grant to the New Careers Training Laboratory did not provide for mandatory cooperation by COP projects. And, given USOE's relationships with local educational agencies, this could not have been the case. Nor, would it have been desirable. Cooperation had to be enlisted; and this was a task with two sets of special difficulties. First, with most COP projects then in their fifth and last year of USOE funding, there were local "winding down" problems. Directors were under heavy pressure both to achieve all their goals, particularly graduation of a maximum number of participants, and to carry out the various activities involved in closing out a federal project. At the same time, many directors were naturally concerned with their own futures after the end of the project. Finally, some school districts, feeling that USOE's interest in COP must have been limited as it had decided not to refund it, were reluctant to invest local resources to assist the NCTL investigation.

The second series of issues revolved around the implications of the "Buckley Amendment," which had been recently enacted. Schools were beginning to struggle with the problems of implementation of it, and the implications of releasing hitherto closely held material. A request from an outside agency, even (or perhaps especially) one funded by USOE, for data about pupils was not always welcomed. Also, many districts were facing increasing pressure from groups of organized teachers as to studies which required their participation. Assistance from officials at USOE, support of the COP project directors at the local sites, and intervention by the staff of the NCTL project blunted these difficulties, but doing so took time and, on occasion, set back the planned schedule.

The 15 Sites

How the 15 Sites Were Selected

Following award of the grant, June 1974, the New Careers Training Laboratory contacted each of the then-operating COP projects.[1] Direct contact was made with each project director (see Appexdix A) and with the Regional Project Officers in all ten USOE regions. Two criteria were set for participation; at least ten COP graduates who were employed in the district's schools, and willingness on the part of the director and the district to cooperate. By the end of August, 60 of the projects contacted had responded positively, although not all met the first criterion.

The grant application had suggested 15 projects as an appropriate number of sites for inclusion in the study. This number would represent about ten percent of all projects, and it would allow for at least one project per USOE region, as well as five additional projects with special or particularly desirable characteristics. And it seemed to be a manageable number of sites for the evaluation project's staff.

The process of winnowing down the positive responses to the 15 sites finally selected dictated the development of strict criteria. The key ones were: a prohibition on selecting more than two projects per region; the need to include projects representing the various forms of the COP model (including large and small projects, urban and rural projects, projects serving differing population groups including Blacks, Spanish-speaking, Native Americans, and whites); and the project's own assessment of the ability of the local site to provide the necessary assistance. All 15 of the projects thus selected agreed to participate; before work got underway, however, the director of the initially selected project in USOE Region VIII resigned, and given the importance of project director cooperation, that site was replaced by the COP project in Helena, Montana. Thus, the 15 sites which participated were:

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[1] Actually, a few projects had completed their fifth and final funded year, June 30, 1974. These, too, were contacted, and one of them, Lewiston, Maine, was ultimately included in the study group.

1. Miami, Florida
2. Richmond, Virginia
3. Gary, Indiana
4. Grand Rapids, Michigan
5. Kansas City, Missouri
6. San Antonio, Texas
7. Los Angeles, California
8. Tempe, Arizona
9. Helena, Montana
10. Tacoma, Washington
11. Chipley, Florida
12. Lewiston, Maine
13. Newark, New Jersey
14. Seattle, Washington
15. New Orleans, Louisiana

After the sites were selected, all 15 project directors received letters and statements of expected responsibilities of both the New Careers Training Laboratory research team as well as the local education agency. (See Appendix B.) In addition, each project director was asked to attend a meeting (Kick Off Meeting In Chicago - K.O.M.I.C.), which took place September 30, 1974, prior to any site visitations by project staff. Inquiries by project directors had made it apparent to the research team that an early meeting was necessary.

The meeting was fruitful and accomplished the following: face-to-face meetings between the project directors and the complete NCTL team in which the researcher assigned to each of the sites was identified; a briefing and complete outline of the anticipated project; based upon a review of each school calendar, tentative visitation schedules were established; and identification of differences in classroom situations, the use of standardized achievement tests, and probable teacher attitudes. Additionally, the meeting triggered a reassessment of the instrumentation to be used and as a result of a specific request from one of the directors, the parent questionnaire developed by the research team was scheduled for additional field test. The meeting's agenda and list of participants are enclosed (Appendix C).

How Representative Were the 15 Sites?

It could be suggested that a study of COP graduates as teachers should require a random selection of graduates from among all graduates employed as teachers in order to be assured that those studied are truly representative of the total universe. The problems of costs and logistics -- the likelihood that such a sampling would produce subjects at a high percentage of the 132 sites -- would have been enormous, to say nothing of local school district prerogatives with the need to obtain permission to carry out a study in the various local school districts. A different mechanism was required in order to select those to be studied. For the purpose of making the study feasible in terms of costs and logistics, a minimum of ten graduates employed in the school district was set as one criterion. And, second, the district itself had to be willing to allow the study to be conducted and to provide the necessary cooperation. And, for reasons relating to OE's structure, it was felt desirable to include at least one project from each of the ten OE regions.

The subjects, then, were COP graduates employed in 15 school districts across the country. The graduates are not a random sample of all graduates, and the projects from which they graduated are not a random sample of all projects. It is thus important to consider the extent that the participants resemble the universe of COP participants,[2] and the extent to which the 15 projects resemble the universe of COP projects.

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[2] It would be better, of course, to compare the participants in the study to the universe of all graduates hired by local school districts or even graduates as a whole, but such data are not available. There are data on a sample of graduates collected in 1975 and for all graduates as of 1972. However, as the chart below suggests, the universe of graduates does not significantly differ from the universe of enrollees, using either the total universe as of September 1972 or the sample of March 1, 1975.

Table II - 1

Selected Characteristics of COP Participants and Graduates

	As of March 1, 1975*		As of September 1972**	
	Total Participants	Graduates	Total Participants***	Graduates****
Low-income background	90%	89%	86%	NA
Residents of low-income community	93%	95%	76%	86%
Veterans	10%	15%	13%	13%
Male	21%	23%	24%	12%
Female	79%	77%	76%	88%
Black	51%	52%	54%	55%
Chicano	12%	11%	10%	15%
Puerto Rican	4%	4%	3%	
American Indian	5%	1%	3%	
White	25%	32%	24%	30%
Other	2%	1%	2%	
19-24 Years	7%	3%	NA	NA
25-34 Years	36%	36%	NA	NA
35-44 Years	29%	29%	NA	NA
45-59 Years	17%	24%	NA	NA
60+ Years	1%	1%	NA	NA

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*Based on information from 36 of the then-operating 132 projects, as collected by Public Systems, Inc., under a subcontract from Rutgers University, as part of a gramt from USOE.

**Data collected are as of September 1972, subsequently corrected but not updated during 1973 and published in 1974 by Public Systems, Inc.

***13,477 total participants.

****536 graduates.

For only then is it possible to know the extent to which the findings may be considered applicable not only for the 15 projects studied but for the entire universe of COP projects.

An examination of participants by sex, veteran status, ethnicity, community residence, and prior credits brought to the program, yields the following comparisons:

Table II - 2

Selected Characteristics of COP Participants and 15 Projects' Participants

	Total COP Participants* (Sample of 36 Projects)	Total COP Participants**	15 Projects' Participants**
Percent Female	79%	76%	79%
Percent Male	21%	24%	21%
Percent Vietnam-era Veterans	10%	13%	13%
Percent Black	51%	54%	61%
Percent Chicano	12%	10%	13%
Percent Puerto Rican	4%	3%	1%
Percent American Indian	5%	3%	5%
Percent White	25%	24%	14%
Percent Other	2%	2%	2%
Percent Community Residents	93%	76%	79%
Average Prior Credits Per Participant	NA	15	14

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*As of March 1, 1975.

**As of September 30, 1972.

The participants of the 15 projects in this study are proportionately almost identical with the total COP universe as to sex, veteran status, community residence, and prior credits brought to the program.[3] The participants in the 15 projects are significantly more non-white.

The projects, when studied from the standpoint of the sources of participants and various features relating to academic credits earned by participants while in the program, may be compared as follows:

Table II - 3

Selected Characteristics of College Programs for Total COP Participants and 15 Projects' Participants*

	Total COP Participants	15 Project Participants
Percent Participants Recruited from Four Federal Programs**	63%	71%
Credits Earned in Program		
Average Current	8	10
Average Current Released Time	5	5
Average Practicum	5	3
Average Total	28	29

*As of September 30, 1972.

**ESEA I, Head Start, Follow-Through, Model Cities

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[3] Where data as to the total COP participant universe differ, we feel that those for 1972 are more reliable as they are based upon a study of the full COP population, while those for 1975 are based upon 36 projects (of 132 surveyed) which responded to requests for information from Public Systems, Inc.

While not quite as similar as the participants, the 15 projects in the study closely resemble the total universe of 132 COP projects when compared on these bases. They are nearly identical in regard to the college programs as reflected by the number of college credits acquired. Concern over the variance as to the recruitment sources of the participants is mitigated by the evidence (Table II - 2) of close similarity of individual characteristics.

+ + + +

While the projects included in this study and the graduates employed by their school districts, who are the objects of this study, were not selected on a statistically randomized basis, but, rather, are a stratified sample, both the projects and the graduates employed are a fair sample of the total COP universe. These data which follow can be seen (with understanding of how the projects and the graduates were selected and how the data were collected) as applicable to the total COP universe.

Table II - 4

Detailed Characteristics of the Participants at the 15 Projects*

	National	PROJECTS[1] 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
Participants	13,477	33	172	158	129	150	262	71	60	178	37	47	224	82	57	58	1718
%Males	24%	61%	13%	28%	2%	23%	6%	21%	95%	46%	16%	26%	7%	17%	16%	40%	21%
#Vietnam-era Veterans	1,866	13	15	37	2	22	9	11	60	36	6	5	0	0	7	13	236
%Vietnam-era Veterans	13%	39%	8%	23%	3%	14%	3%	15%	100%	20%	16%	10%	0	0	12%	22%	13%
#Blacks	7,358	0	142	154	37	127	203	53	60	14	32	0	152	1	46	40	1061
%Blacks	54%	0	82%	97%	28%	84%	77%	74%	100%	7%	86%	0	67%	1%	80%	68%	61%
#Chicano	1,441	0	0	0	0	0	7	2	0	164	0	0	59	0	1	1	234
%Chicano	10%	0	0	0	0	0	2%	2%	0	92%	0	0	26%	0	1%	1%	13%
#Puerto Rican	488	0	10%	0	1	1	18	0	0	0	0	0	0	0	0	2	31
%Puerto Rican	3%	0	5%	0	1%	1%	6%	0	0	0	0	0	0	0	0	3%	1%
#Indian	505	0	0	0	0	0	0	1	0	0	0	5	0	80	2	0	88
%Indian	3%	0	0	0	0	0	0	1%	0	0	0	10%	0	97%	3%	0	5%
#White	3,323	33	17	2	91	11	12	15	0	0	4	42	4	1	7	13	252
%White	24%	100%	10%	1%	70%	7%	4%	21%	0	0	10%	89%	1%	1%	12%	22%	14%
#Other	362	0	3	2	0	11	22	0	0	0	1	0	9	0	1	2	51
%Other	2%	0	1%	1%	0	7%	8%	0	0	0	2%	0	4%	0	1%	3%	2%
%Community Residents	76%	39%	100%	47%	87%	99%	37%	35%	100%	100%	100%	94%	100%	100%	98%	62%	79%
Average Prior Credits	15	15	16	10	6	33	2	3	9	7	37	15	18	9	34	17	13

[1]Projects

1. Lewiston, Maine
2. Newark, New Jersey
3. Richmond, Va.
4. Chipley, Fla.
5. Miami, Fla.
6. Gary, Ind.
7. Grand Rapids, Mich
8. New Orleans, La.
9. San Antonio, Tx.
10. Kansas City, Mo.
11. Helena, Mont.
12. Los Angeles, Ca.
13. Tempe, Arizona
14. Seattle, Washington
15. Tacoma, Washington

*As of September 30, 1972

Table II - 5

Detailed Characteristics of the College Programs at the 15 Projects*

PROJECTS[1]

	National	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total of 15 Projects
Participants	13,477	33	172	158	129	150	262	71	60	178	37	47	224	82	57	58	1,718
Percent Recruited[2]	63%	0	90%	67%	34%	96%	70%	62%	0	76%	95%	62%	88%	99%	42%	78%	71%
Credits --																	
Average Current	8	11	22	12	6	6	8	9	10	5	13	16	13	5	12	8	10
Average Released Time	5	11	22	6	0	2	1	2	3	5	6	0	3	5	10	3	5
Average Practicum	5	10	3	5	5	3	1	8	11	0	16	0	3	0	0	0	3
Average Total COP	28	62	22	29	38	13	29	41	50	37	45	33	3	41	24	79	29

[1]PROJECTS

1. Lewiston, Maine
2. Newark, New Jersey
3. Richmond, Virginia
4. Chipley, Florida
5. Miami, Florida
6. Gary, Indiana
7. Grand Rapids, Michigan
8. New Orleans, Louisana
9. San Antonio, Texas
10. Kansas City, Missouri
11. Helena, Montana
12. Los Angeles, California
13. Tempe, Arizona
14. Seattle, Washington
15. Tacoma, Washington

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2. Percent total participants recruited from ESEA I, Head Start, Follow-Through, Model Cities

*As of September 30, 1972.

The Instruments

Axis 1 - The Person

Central to the evaluation process was the selection of a control group of non-COP trained first-year teachers at each school where COP-trained teachers were employed.[4] COP-trained teachers and their non-COP trained teacher counterparts were then "matched" as to certain predetermined characteristics (e.g., first-year teachers, in the same school, teaching at the same grade levels).

To broaden the comparisons, a questionnaire was distributed to both the COP-trained and non-COP trained participants. This instrument was designed to elicit specific personal information about each teacher (age, sex, ethnicity), information concerning professional preparation, as well as information concerning class size and the ethnicity of their pupils. Information gathered from this questionnaire is presented in Chapter IV, "The Findings," Part A (see Appendix D for a copy of this and other instruments used in the study).

In addition, we sought information as to teacher attitudes. Here three standardized measurement instruments were used -- the Gordon Inventory, the Gordon Profile, and the Minnesota Teacher Attitude Inventory. These were used to test the significance of the following Null Hypotheses:

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[4] In Gary, Indiana, and Grand Rapids, Michigan, there were no first-year teachers other than the COP-trained teachers; thus, they could not provide "matches." In some other schools, which could not provide a number of first-year non-COP trained teachers equal to the number of COP-trained teachers, as many "matches" as available were used.

> There will be no significant difference in the COP-trained teachers' responses to an inventory measuring personal characteristics and the non-COP trained teachers' responses to an inventory measuring personal characteristics.
>
> There will be no significant difference in the COP-trained teachers' responses to a survey measuring their attitudes toward aspects of schooling and the non-COP trained teachers' responses to a survey measuring their attitude toward aspects of schooling

The relatively limited amount of research on the topic of personality characteristics of "good" teachers indicates that some traits can be related to teacher effectiveness. Clark and Gowan and Gowan have found positive correlations in the areas of Objectivity, Agreeableness (Friendliness). Cooperativeness (Personal Relations), and Emotional Stability.[5,6] Leeds found that teachers who get along well with pupils tend to be cooperative, friendly, objective, and emotionally stable and to evidence sociability and social ascendancy.[7] Both Leeds and Washburne and Heil found that fearfulness and submissiveness were characteristics of less effective teachers.[8,9]

As Ryans has stated the issue, "to anyone concerned with teaching, the desirability of attempting to understand motivational background as revealed in teachers' opinions about school-related matters is self-evident.

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[5] E.J. Clark, "The Mental Health of Elementary Teachers as Measured by the Guilford-Martin Personality Battery," A Paper Read at the National Council on Measurements Used in Education, Atlantic City, N.J., March 1970.

[6] J.C. Gowan and Mary S. Gowan, "The Guilford-Zimmerman and the California Psychological Inventory in the Measurement of Teaching Candidates," California Journal of Educational Research, VI (1955), pp. 35-37.

[7] C.H. Leeds, "Teacher Attitudes and Temperament as a Measure of Teacher-Pupil Rapport," Journal of Applied Psychology, XL (1956), pp. 333-337.

[8] Ibid.

[9] C. Washburne and L.M. Heil, "What Characteristics of Teachers Affect Children's Growth?", School Review, LXVIII (1960), pp. 420-428.

He also found that "...superior teachers were significantly (beyond .01 level) more favorable in their opinions of pupils than were the low teachers."[10]

These findings resulted from the use of several instruments which were too lengthy for use in this study. Instead, brief, easily administered instruments have been selected which measure essentially the same characteristics covered in the above mentioned studies. These are the Gordon Personal Profile and Inventory.

Although we believe it to be axiomatic that teachers' attitudes are related to the quality of their teaching, and although numerous studies have been made of teacher attitudes (the instrument most commonly employed for this measurement being the Minnesota Teacher Attitude Inventory), there has been virtually no change in relevant research since Stern's 1963 statement that "direct evidence on this point is surprisingly meager."[11]

To measure these attitudes, we have employed the most widely used instrument, namely, the Minnesota Teacher Attitude Inventory (MTAI). The MTAI "...is designed to measure those attitudes of a teacher which predict how well he (sic) will get along with pupils in interpersonal relationships and, indirectly, how well satisfied he will be with teaching as a vocation."[12]

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[10] David G. Ryans, Characteristics of Teachers (Washington, D.C., 1960).

[11] George G. Stern, "Measuring Non-Cognitive Variables in Research on Teaching" in N.L. Gage (ed.), Handbook of Research on Teaching (Chicago, 1963).

[12] W.W. Cook, et al., The Minnesota Teacher Attitude Inventory (New York, 1951).

Axis 2 - The Process

The observation of teachers in the classroom was the second major area of inquiry. Classroom observation has been the basis for many studies attempting to determine what constitutes effective teaching behavior. Despite the amount of work which has been done in this area, according to Rosenshine and Furst, "At present...[there] can only be guesses about what is good, true and beautiful in classrooms -- research in this area has barely begun."[13] In other words, despite the attention devoted to this vital aspect of teacher performance, it is difficult to disagree with Marsh and Wilder's statement that "No simple, specific, observable teacher act has yet been found whose frequency or percentage of occurence is invariably [and] significantly correlated with student achievement."[14] The current uncertain status of the research virtually assures agreement with McNeil and Popham's assertion that "effective teaching cannot be proven by the presence or absence of any instructional variable."[15]

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[13] Barok Rosenshine and Norma Furst, "The Use of Direct Observation to Study Teaching" in Robert M.W. Travers (ed.), Second Handbook of Research on Teaching (Chicago, 1973).

[14] J.E. Marsh and E.W. Wilder, "Identifying the Effective Instructor: A Review of Quantitative Studies, 1940-1954," Research Bulletin, No. AFPTRC-TR-54-44, USAF Personnel Training Research Center, San Antonio, Texas, 1954.

[15] John D. McNeil and W. James Popham in Travers, op cit.

It seemed, nevertheless, incumbent upon us to make observations of the actual teaching performance of COP-trained and control group teachers and to report on those aspects of their behavior which the research at least suggests measures qualitative differences. And. although there is no definitive evidence that particular teacher behaviors lead to particular and significant pupil gains, the limited evidence available does provide some direction.

A great number of studies of teacher effectiveness have been conducted through means of classroom observation.[16] Flanders and Simon summarize the data asserting that:

> It can now be stated with fairly high confidence that *the percentage of teachers' statements that made use of ideas and opinions previously expressed by pupils is directly related to average class scores on attitude scales of teacher attractiveness, liking the teacher, etc., as well as to average achievement scores adjusted for initial ability.* (Emphasis in the original.)[17]

They further note a study of verbal interaction in high school classes which found that "the high-achieving classes differed from the low-achieving classes by having more responsive teacher behavior, less teacher talk, and more extended pupil talk...."[18] While Flanders and Simon focus on verbal classroom interaction, other authors have identified additional areas.

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[16] Comprehensive sources for reviews of these studies are Gage, *op cit*., and Travers, *op cit*.

[17] Ned A. Flanders and A. Simon, "Teacher Effectiveness" in R.L. Ebel (ed.), *Encyclopedia of Educational Research* (New York, 1969).

[18] N.E. Furst, "The Multiple Languages of the Classroom: A Further Analysis and Synthesis of Meanings Communicated in High School Teaching," Doctoral Dissertation, Temple University, 1967.

In their review of the literature relevant to the affective dimensions of learning, Kahn and Weiss have identified four categories of teacher behavior which "have been shown to be favorably associated with students' school achievement. They identify these categories as Enthusiasm, Use of Student Ideas and General Indirectness, Criticism, and Probing.[19]

Three types of instruments are used to observe classroom performance. These are category systems, sign systems, and rating scales. A category system is one in which an event is recorded each time it occurs; a sign system is one in which an event is recorded only once if it occurs during a specified time period; a rating scale requires a single rating on each variable at the end of the observation period. Both category and sign systems are, in essence, counting systems designed to make classroom observation more objective, hence less susceptible to subjective distortion, than that achieved through the use of rating scales.

With more than a hundred different observation instruments from which to choose, it seemed most reasonable to select the one which is both widely used and designed to measure that aspect of teacher performance which we have determined is more important for our study. Because of the evidence that teacher use of student ideas contributes to improved pupil performance, we have chosen to focus on this particular aspect of teacher behavior for this study. The most widely used observational system is the Flanders Interactional Analysis instrument. It is widely recognized as providing an accurate measure of classroom interaction, particularly as regards the dimensions of direct and indirect teacher behavior.

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[19] S.B. Kahn and Joel Weiss, "The Teaching of Affective Responses" in Travers, op cit.

Although the evidence is certainly not conclusive, it does point in the direction of a significant relationship between teacher indirectness -- measurable with the Flanders instrument -- and student achievement. Flanders himself reports a clear relationship between teacher indirectness and achievement in social studies and math, with "liking teacher more" as an intervening variable.[20] LaShies reports a significant, positive relationship between teachers' indirectness and student achievement in biology.[21] And, Power reports a significant, positive relationship between teacher indirectness and pupil achievement in math for grades 1 to 3.[22]

Not all classroom settings, however, lend themselves to the use of the Flanders instrument; classrooms, for instance, in which individual or small-group work is going on and the teacher engages in only very limited interaction with the pupils. Since we anticipated encountering such situations, we also utilized a second observation instrument, the Ryans Classroom Observation Record.

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[20] Ned. A Flanders and Greta Morine, "Some Relationships Among Teacher Influence, Pupil Attitudes, and Achievement" in Briddle and Ellena (eds.), Contemporary Research on Teacher Education (New York, 1964).

[21] W.A. LaShies, "The Use of Interaction Analysis in BSCS Laboratory Block Classrooms," Journal of Teacher Education, XVIII (1967), pp. 439-446.

[22] E.R. Powell, "Teacher Behavior and Pupil Achievement," A Paper Read at the AERA Annual Meeting, 1968.

The Ryans Classroom Observation Record was chosen for the following reasons:

--the factors which this instrument measures are strongly related to the variables of teacher behavior which the research establishes as being related to pupil achievement;
--Ryans and his staff obtained inter-observer reliability correlations of between .8 and .9; and
--the use of the instrument can be learned in a brief time.

The Flanders and Ryans instruments were used to test the significance of the following Null Hypothesis:

> There will be no significant differences in the behavior of teachers and pupils in the classroom of COP-trained teachers as compared with the classrooms of non-COP trained teachers as measured by the Flanders Interaction Analysis Categories and the Ryans Observation Record.

Further to support our investigation of the second axis, the original project plan was to solicit judgments of the graduates' work by their peers, supervisors, principals, parents, pupils, and paraprofessionals with whom the teachers worked. Discussions with site personnel and a review of research literature dealing with this area indicated, however, that it would be consistent with research findings to limit this facet of the inquiry to school supervisory personnel, pupils, and parents.

The instruments used in dealing with this aspect of the second axis are:

The Principal/Supervisor Rating Sheet - This instrument was developed by New Careers Training Laboratory staff. It consists of 40 items for which the teacher is to be rated by the rater in comparison with other first-year teachers known by the rater. The Principal/Supervisor Rating Sheet was used to test the significance of the following Null Nypothesis:

> There will be no significant difference in the Principal/Supervisor's perception of the behavior of COP-trained teachers as measured by specific categories of behavior and the Principal/Supervisor's perceptions of the behavior of non-COP trained teachers as measured by the same, specific categories of behavior.

The logic of measuring pupil attitudes toward school is clearly expressed by Flanders. "A suitable learning environment is said to exist when students are interested in coming to class, look forward optimistically to the work involved, and obtain a sense of satisfaction from participating, especially in terms of self-respect and self-confidence." He goes on to say that "it follows that students' attitudes toward the learning environment will be an important indicator of the suitability of the environment for them."[23]

We chose to approach the question of student attitudes through the measurement of parent perceptions of their attitudes and learning in the belief that pupil attitudes are frequently translated into behaviors observable by parents.[24] The Parent Questionnaire utilized was developed by New Careers Training Laboratory and field tested in four schools in Providence, Rhode Island. This preliminary work identified the items for which response patterns differed between parents.

This questionnaire was used to test the significance of the following Null Hypothesis:

> There will be no significant difference in the perceptions of the parents of students in classes taught by COP-trained teachers and the perceptions of the parents of students in classes taught by the non-COP trained teachers as measured by specific indices of student behavior.

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[23] Flanders and Simon, op cit.

[24] School districts' concern regarding direct questioning of pupils would have made it impossible to survey the students themselves at two-thirds of the sites.

The basic question which immediately confronts the investigator of pupil attitudes is whether they can be positively correlated with cognitive achievement, and the current evidence on this issue is far from definitive. Several studies have indicated that correlations between attitudes and achievement reflect the fact that those pupils who achieve well in school have more positive feelings about it, while other studies, however, report nonsignificant relationships between school-related attitudes and performance.[25] Nevertheless, common sense still dictates that pupils with positive attitudes toward school will, in the long run, achieve more than pupils with less positive attitudes. If teachers are able to foster more positive attitudes toward school in their pupils, these pupils should gain more from their entire school experience, even though these gains may not be immediately evident.

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[25] Kahn and Weiss, op cit.

Axis 3 - The Product

The third axis deals with the COP graduates' impact upon the students themselves.

There has been surprisingly little research on the effect of schooling on the self-concept of children. While many educators express concern about this critical aspect of the child's development, interest in it has generally been subordinated to a focus on cognitive development. In fact, improvement in self-concept does not even rate an index entry in either of the Handbooks of Research on Teaching.[26]

Consideration of improved self-concept as a valid goal of education raises two separate questions: first is whether improvement in self-concept is a valid educational goal, independent of cognitive gains. Whether one responds affirmatively to the first question is a value issue, one to which the staff of this evaluation would respond affirmatively. The research group believes that improved self-concept, independent of any other educational objective, is, indeed, a valid goal of the schools. And this belief is adequate for us to undertake to investigate whether COP-trained teachers differ from traditionally trained teachers in achieving this goal.

Examination of this variable is further warranted on the basis of the limited evidence available on the relationship between cognitive gains and improvement in self-concept. Staines has reported that in classes in which improved self-concept was a major goal, both experimental and control classes made about the same gains in English and math, as measured by standardized tests, while significant positive gains were made in pupil self-concept in the experimental classes.[27] It has been stated elsewhere that in student-centered classes, "factual and curricular learning is roughly equal to the learning in conventional classes. Some studies report slightly more, some slightly less. The student-centered group shows gains significantly greater than the conventional class in personal adjustment, in self-initiated curricular learning, in creativity, in self-responsibility."[28] While the evidence does not clearly support the view that improved self-concept leads directly to greater cognitive growth, it does support the view that emphasis on improved self-concept does not interfere with cognitive growth.

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[26] Gage, op cit., Travers, op cit.

Additional evidence, moreover, begins to demonstrate a relationship between personality factors and achievement. Lanning and Robbins, for example, looked for factors which may produce underachievement. They identified "poor self-concept originating in poor family relations" as one of these factors.[29] Kim has similarly related interpersonal and emotional factors to achievement.[30] Johnson reports that positive self attitudes have been shown to influence achievement as well as personal adjustment and acceptance of other individuals.[31]

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[27] J.S. Staines, "The Self-Picture as a Factor in the Classroom", British Journal of Educational Psychology, XXVIII (1958), pp. 97-111.

[28] Carl Rogers, On Becoming A Person (Boston, 1961).

[29] F. Lanning and R. Robbins, "Gifted Underachiever," School Review, LXI (1951), pp. 472-480.

[30] Y.H. Kim. "The Factor Structure of Social Maturity and Its Relation to Intelligence and Achievement," Dissertation Abstracts (Ann Arbor, 1968), 4002-A.

[31] D.W. Johnson, Reaching Out: Interpersonal Effects and Self-Actualization (Englewood Cliffs, 1972).

Despite increasing interest in this area, we are not faced with a wide choice of instruments with which to gather data. In fact, only one instrument currently available -- the Piers-Harris Children's Self-Concept Scale -- meets the necessary criteria.

The Piers-Harris Self-Concept Scale was used to test the significance of the following Null Hypothesis:

> There will be no significant difference in the attitudes toward self of students in COP-trained teachers' classrooms and those of students in non-COP trained teachers' classrooms as measured by scores obtained on the Piers-Harris Children's Self-Concept Scale.

Another aspect of the impact of the COP graduate is upon the pupils' affective development. However, the unwillingness of school systems to allow access to certain pupil information due both to increasing sensitivity as to pupil records and concern regarding the meaning of the "Buckley Amendment" meant that we could not directly measure affective domain growth.

We were able to assess cognitive growth. While it would have been most desirable to administer a single set of instruments assessing cognitive achievement to all pupils, school system regulations prevented doing so. Thus, analysis of pre- and post-test achievement scores of district administered tests is used to test the significance of the following Null Hypothesis:

> There will be no significant difference in the achievement growth of students of COP-trained teachers and the achievement growth of students of non-COP trained teachers.

A final facet of the inquiry on the impact of the COP graduate upon the students was to collect data on pupil absences and disciplinary referrals. The effects of extensive absence hamper the child's educational progress and keeping up with peers, and reinforce negative attitudes toward school. Extensive absence also often reflects negative attitudes toward school. In addition, schools are budgeted and/or reimbursed on the basis of the numbers of pupils in attendance. Thus, attendance is of great importance to the school districts. Even more important, however, is the slowly accumulating evidence that attendance is related to achievement.[32] Attendance records for pupils in the classrooms of both the COP- and non-COP trained teachers were made available by the local school districts.

For the learning process to occur, there must be some discipline and effective management of class problems. Discipline problems reflect pupil attitudes toward the school, the performance and attitudes of the classroom teacher, and the ability of a teacher to create an atmosphere for learning. Discipline problems may be viewed as indicators of pupil dissatisfaction with the educational process. A decrease in disciplinary problems reflects favorably on the teacher. A diminution of disciplinary problems because of greater teacher skill and improved pupil rapport is generally viewed as a significant program outcome. An NCTL-developed Pupil Activity Data Sheet provided for recording of discipline referrals, as well as for the attendance data referred to above.

+ + + +

In summary, the study design incorporates the use of a variety of instruments addressing the issue of what kind of teacher is the COP graduate from several differing perspectives. In effect, it is a "Rashomon" approach, believing that a "truer" picture is obtainable from multiple lenses.

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[32] David E. Wiley and Annegret Harnischfeger, "Explosion of a Myth: Quantity of Schooling and Exposure to Instruction," Educational Researcher (April 1974).

Third Party Evaluation

The grant from the U.S. Office of Education to the New Careers Training Laboratory stipulated that a third party evaluator be engaged. Although the selection of the third party evaluator was originally scheduled to be completed by September 30, 1974, delays in form clearance resulted in the actual requests for a proposal from interested third party evaluators being sent on September 27, 1974, with a request for their return on October 25, 1974. The requests were sent to every individual appearing on a list of program auditors made available to the team by the U.S. Office of Education Program Officer. In addition, the proposal was sent to other individuals known to various members of the research team. In all, 27 requests for proposals were solicited and six proposals were submitted. Two outside university readers were contracted to read the proposals and make recommendations. Their report was available on November 5, 1974. From this process, Mr. Leonard Granick was selected as third party auditor.

Regular meetings were held with Mr. Granick and all the necessary plans and files were made available to him. In addition, he made visits to four of the sites. His reports are attached (Appendix E).

The 15 COP Projects

Individual Characteristics

In their five years of operation, the 15 COP projects enrolled a total of 2,060 participants,[1] ranging from 30 to 317 per project, with an average of 137. Of this total, 918 (45%) were enrolled at the time of this study. Current enrollment ranged from 0[2] to 175, with an average of 63 students per project.

At the time of the NCTL study, 384 COP graduates were employed in professional capacities in the 15 school systems: 368 (96%) as teachers and 16 (4%) in non-teaching professional capacities. Of the 368 teachers, 318 (86%) were assigned to grades K through 12 and 50 (14%) were in other teaching capacities. Employed teachers at grades K-6 numbered 282 (76%) and all 15 projects employed COP graduates in these grades. In nine of the projects, 32 (9%) taught junior high school (grades 7 and 8), while four (1%) COP graduates were teachers in high school (grades 9 through 12). Of the 50 graduates in other teaching capacities, 29 were special education teachers; 13 were early childhood education teachers; four were Adult Basic Education teachers; two were bilingual teachers; and two were substitute teachers.

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[1] Note that the data here and in subsequent sections were collected as part of the present project during the 1974-75 grant year. The data in Chapter II, Part B, as noted there, were collected in September 1972 and March 1975, and are not strictly comparable with the data presented here.

[2] The Lewiston (Maine) project completed its five funded years at the end of 1973-74 school year. The other projects, except Newark, were in their fifth and last funded year in 1974-75; Newark was in its fourth funded year.

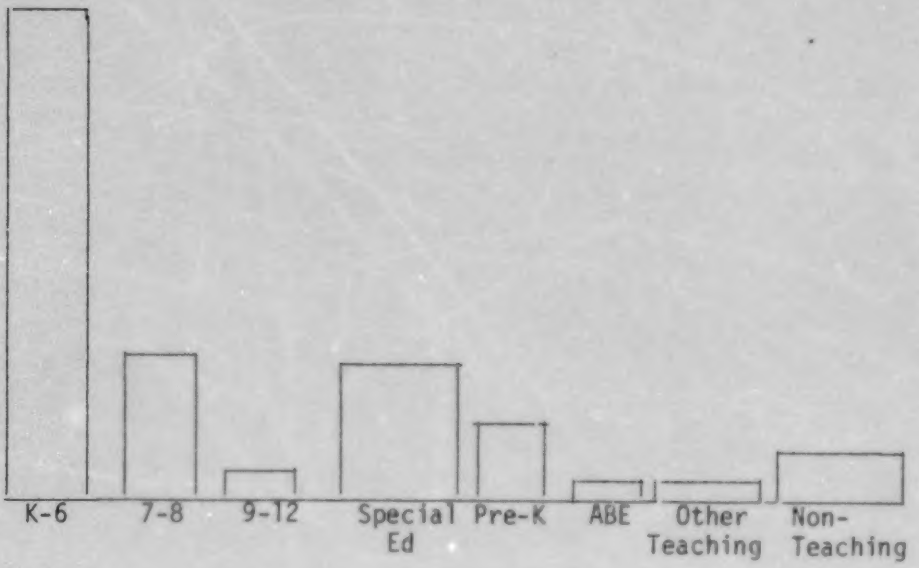
The 16 non-teaching professionals, reported by eight projects, included three librarians, three occupational specialists, two administrators, two social workers, and one each of the following: Assistant COP Director, Student Advisor-Alternative Education, Home-School Coordinator, Teacher Corps-Community Coordinator, Community-School Director, and Mobile Reading Unit Coordinator.

Table III - 1

Distribution of Graduates Employed by 15 Projects' School District

(Total Graduates Employed = 384)

Number	282	32	4	29	13	4	4	16
Percent	73%	8%	1%	8%	3%	1%	1%	4%
Number of Districts	15	9	3					8



The following table represents COP participants at the 15 sites during the program's duration, present COP participants at the time of this survey (Fall 1974), and COP participants employed in the school systems in teaching or other professional capacities at each site.

Table III - 2

Participants (Total and Current) and Graduates at the 15 Projects

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
1. Total COP participants during program's operation.	165	317	104	52	61	230	162	108	150	200	210	60	99	30	112	2,060
2. Present COP participants.	85	164	32	2	25	175	32	54	113	95	75	14	30	0	22	918
3a. COP graduates employed in school system in teaching or other professional capacities at this time.	15	32	17	8	36	26	83	8	37	22	28	29	23	11	9	384
3b 1. teaching grades k-6.	15	12	11	8	21	26	64	6	31	14	18	27	17	7	5	282
2. teaching grades 7-8.	0	0	0	0	5	0	1	2	2	7	5	1	5	2	2	32
3. teaching grades 9-12.	0	0	0	0	0	0	1	0	0	1	2	0	0	0	0	4
4. other professional capacities.	0	20	6	0	10	0	17	0	4	0	3	1	1	2	2	66
teaching.	0	18	4	0	7	0	13	0	4	0	2	0	1	1	0	50
non-teaching.	0	2	2	0	3	0	4	0	0	0	1	1	0	1	2	16

Eleven of the 15 projects reported 65 additional graduates employed in other school systems: 49 (75%) as teachers and 16 (25%) as non-teaching professionals. Thirty-four COP graduates were reported by 11 projects as working in fields other than education.

Ninety-three (24%) of the 384 COP graduates employed in the 15 school systems were taking graduate-level courses; 66 (71%) of these were enrolled in degree programs. Two COP graduates had already received their M.A. degrees.

The following table represents employment of COP graduates and the number enrolled in graduate degree programs.

Table III - 3

Graduates of the 15 Projects Employed at Other Than the Projects' School Districts

	SITES															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
4. COP graduates employed in other school systems as teachers.	0	1	2	5	3	0	7	0	0	16	6	1	1	6	1	49
other professional capacities	0	1	1	0	0	0	8	0	0	5	0	0	0	0	1	16
5. COP graduates employed in fields other than education.	0	0	1	5	0	1	4	5	0	3	3	2	1	7	2	34

Table III - 4

Post Baccalaureate Educational Activities of COP Graduates

	SITES															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
6a. COP graduates employed in school system (see 3a) presently taking graduate level courses.	1	5	3	1	1	26	10	2	0	4	2	29	7	NA	2	93
6b. Of the above (6a) number in graduate degree programs.	1	5	3*	1	1	3	10	2	0	4	2	29	3	NA	2	66

*In addition, two received M.A. degrees in August 1974.

Both present (1974-75) COP participants and COP graduates employed by the school systems of the 15 projects as teachers were 17 percent male and 83 percent female. The same ratio existed for COP graduates in non-teaching capacities.

Veterans comprised ten percent of present COP participants, 11 percent of the COP graduates employed as teachers in the school systems, and 31 percent of the COP graduates employed in non-teaching capacities.

A majority of the 15 project COP participants (71%) were Black. Fourteen percent were Spanish-surnamed, 12 percent "Other," two percent American Indian and 0.08 percent were Oriental. The COP graduates employed as teachers in the school systems were 66 percent Black, 14 percent "Other," 11 percent Spanish-surnamed, eight percent American Indian, and 0.01 percent Oriental. Those graduates employed in non-teaching capacities in these school systems were 75 percent Black and 13 percent "Other." American Indians and graduates of Spanish-surname each made up six percent of this group.

The largest age group of present COP participatns was 31-40 (37%), followed closely by the 20-30 group (34%). Twenty-three percent were 41-50, and seven percent were 50 and over. The majority (56%) of COP graduates employed in non-teaching capacities was in the 20-30 age group. The 31-40 and 41-50 age groups were each 19 percent and graduates 50 and over made up six percent of the sample.

Turning from the COP personnel to the school districts as a whole, the data collected[3] indicated that 32 percent of the teachers (excluding COP graduates) in the systems were male and 68 percent female. The majority (69%) were Other, 22 percent were Black, 7 percent were Spanish-Surnamed, 3 percent were Oriental, and 0.1 percent were American Indian. Teachers between 20 and 30 made up the largest age group (40%). Twenty-four percent were in the 31-40 age group, 19 percent between the ages of 41 and 50, and 17 percent 50 or over.

Forty percent of the non-teaching professionals (excluding COP graduates) were male and 60 percent were female. The majority (67%) were Other, 25 percent were Black, 6 percent were Spanish-Surnamed, 2 percent were Oriental, and 0.2 percent were American Indian. Thirty percent were 50 years old or over, 29 percent were between the ages of 31-40, and 15 percent were 20-30 years old.

As Table III - 5 indicates, the COP graduates in both teaching and non-teaching categories were more likely to be Black or Spanish-Surnamed or American Indian but less likely to be Oriental or "Other" than the districts' staff as a whole. As to age, the COP graduates in teaching were more likely to be older than the districts' staff as a whole, while the COP graduates in non-teaching positions were more likely to be younger.

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[3] The collection of district-wide data was uneven. Of the 15 projects, seven were unable to provide data concerning sex, veteran status, ethnic background, and age of school district personnel (excluding COP graduates) in teaching and professional non-teaching capacities. Of the remaining eight, one site sent only ethnic data; the other sites included all information requested except veteran status with the exception of one project which was unable to provide age breakdown.

Table III - 5

Sex, Ethnicity and Age of COP Graduates and Districts Overall

	Male	Female	Vet.	Black	SS	AI	OR	Other	Age 20-30	 31-40	 41-50	 50+
7. Present COP participants. (Total: 918).	159 (17%)	759 (83%)	95 (10%)	650 (71%)	131 (14%)	15 (2%)	8 (.08%)	114 (12%)	308 (34%)	339 (37%)	208 (23%)	63 (7%)
8. COP graduates employed by school system as teachers (Total: 368).	63 (17%)	305 (83%)	41 (11%)	244 (66%)	42 (11%)	28 (8%)	1 (.01%)	53 (14%)	115 (31%)	115 (31%)	111 (30%)	27 (7%)
9. COP graduates employed in professional non-teaching capacity (Total: 16).	8 (50%)	8 (50%)	5 (31%)	12 (75%)	1 (6%)	1 (6%)	0 ---	2 (13%)	9 (56%)	3 (19%)	3 (19%)	1 (6%)
10. Teachers in school system (excluding COP graduates).	7,474* (32%)	15,639 (68%)	NI	12,181 (22%)	3,744 (7%)	59 (.1%)	1,900 (3%)	38,667 (69%)	1,597 (40%)	944 (24%)	775 (19%)	700 (17%)
11. Non-teaching professionals in school system (excluding COP graduates.	1,625 (40%)	2,409 (60%)	NI	1,565 (25%)	346 (6%)	11 (.2%)	138 (2%)	4,137 (67%)	121 (15%)	236 (29%)	219 (27%)	247 (30%)

*Four were under 20 years of age.

N.B. Chipley, Fary, Helena, New Orleans, Newark, San Antonio, and Tempe were unable to supply data concerning school district personnel (excluding COP graduates) in teaching and non-teaching positions. Los Angeles included only ethnic data. Miami did not include age breakdown.

Approximately 80 percent of the 368 COP graduates employed as teachers in the 15 school systems were assigned to classrooms where the majority of the children were of the same ethnic or racial background as the COP graduate. The percentage of teachers thus assigned ranges from 17 to 100 percent per school system, with seven school systems having 100 percent.

The following table represents COP graduates in school systems assigned as teachers to classrooms where a majority of the children are of the same ethnic or racial background as that of the COP graduate.

Table III - 6

COP Graduates Assigned as Teachers to Classrooms Where a Majority of the Children Were of Same Ethnic or Racial Background as the COP Graduate

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Number assigned	13	27	5	8	13	26	63	8	32	20	27	28	4	10	7
Percentage of Total COP graduates assigned as teachers in 15 school districts.	86	90	$33^{1}/3$	100	39	100	78	100	86	91	100	100	17	100	100

Project Characteristics

Of the criteria used for selection of COP participants, residence in the community was considered important by 14 of the 15 projects. Financial need was rated as important by 13 projects. Eleven projects perceived both potential ability and ethnic and cultural considerations as important determinants. Ten believed that experience in working with children and personality factors were important. The criterion deemed less important throughout the 15 project group was political involvement in the community. Similarly, there was general agreement that background experience in community work and language ability were not especially significant.

The following table presents the criteria used in selecting COP participants, as reported by the 15 COP project directors.

Table III - 7

Relative Importance of Various Selection Criteria

	Very Important	Somewhat Important	Not Very Important	Not at All Important
Financial Need	11	2	1	0
Ethnic, Cultural Characteristics	6	5	1	0
Academic record	1	5	4	3
Background experience in community work	2	2	6	2
Background experience in working with children	9	1	1	2
Perceived potential ability	6	5	0	2
Language ability	0	4	6	3
Personality factors	4	6	1	2
Residence in community	13	1		
Political involvement in community	0	1	1	4
Other				
LEA employee	3			
Vietnam Veteran	1			
Location of work site	1			
Evidence of enrollment in IHE		1		
Good health	1			

While employed in a school, the COP participant's performance as an instructional paraprofessional was evaluated by such school personnel as teachers, supervisors, and principals or by a combination of school, institution of higher education and/or COP staff. School personnel were involved in the evaluation procedures of 14 of the 15 projects; COP personnel were used by seven projects; and college or university personnel were used by six projects. Six projects used only school personnel; four projects utilized school, college, and COP personnel; three projects used COP and school personnel; and one project each used school and college personnel or college personnel only.

The following table represents the way in which the COP participant's work was evaluated while he/she was employed in a school.

Table III - 8

Source of Evaluation of COP Participants' Work

(n=15)		
School personnel only.	6	(40%)
IHE personnel only.	1	(6%)
School and IHE personnel.	1	(6%)
School and COP personnel.	3	(20%)
School, IHE and COP personnel	4	(27%)

College Programs

At all 15 projects, participating colleges and universities adapted admission requirements and/or course offerings in varying degrees to meet the educational needs of participants, project goals, and the demands of the integrated work-study experience. Thirteen projects either waived or modified entrance requirements. The actions they took included eliminating or changing entrance and placement examinations; waiving requirements for high school or general equivalency diplomas; disregarding high school averages, SAT and ACT scores, or previous college records in favor of judgments based upon the maturity, capability and professional potential of the applicants.

Eleven projects developed new courses or modified existing course content and/or methodology. Additions and revisions of courses were focused on teaching methods and compensatory or remedial education for participants, as well as upon courses aimed at sensitizing participants to the history and culture of minority ethnic groups and to the relevance of these factors in the educational process of which they were part.

Seven projects waived required courses, primarily because participants had, in effect, met their obligations through on-the-job training and on-site course work. Cadet or Student Teaching requirements were waived at two projects, with one project making this exception only for selected students. Classes requiring classroom practicum or observation (except practice teaching) were waived at another project.

The following table represents changes made in the univeristy or college programs for COP participants.

Table III - 9

Changes Made in College Programs

	Requirements Waived	Requirements Modified	New Courses Developed	Usually Required Courses Waived
	(n=15)	(n=14)	(n=14)	(n=14)
YES	10 (67%)	7 (50%)	11 (79%)	7 (50%)
NO	5 (33%)	7 (50%)	3 (21%)	7 (50%)

The major differences between the program followed by COP participants and that followed by non-COP participants at the same college included practical on-the-job training, onsite course work, credit for work experience, and college faculty supplemented by community and school district personnel.

Thirteen of the 15 project directors believed the COP program goals differed from traditional teacher preparation programs. Of the 13, two (15%) stated that the goals differed "completely," seven (54%) that they differed "a great deal," and four (31%) that they differed "somewhat."

In the opinions of nine directors, these differences had caused difficulties, primarily in the area of relations with college instructors (8), followed by relations with teachers at the local school (6), administrators at the local school (5), administrative policies of the local school board (5), and curriculum development (5).

All of the project directors felt there had been cooperation between the COP projects and other educational programs at the college or university. The majority (9) stated that there had been a great deal of cooperation and six stated that there had been some.

Fourteen of the directors felt that the COP project caused some changes in the institution of higher education's traditional practices and/or policies. Six felt that this impact had produced significant changes. Five respondents characterized the change as nominal and three believed it to be little. Areas where change was most prevalent included entrance requirements (10), curriculum (8) and course content (6).

Table III - 10

Areas of College or University Change
n=14

Entrance requirements.	10
Financial aid procedures.	4
Curriculum.	8
Course content.	6
Grading.	1
Graduation requirements.	2
Other:	
Non=traditional scheduling.	1
Earlier field experience.	1
Faculty teaching style.	1

Summary

During the five years of COP's operation, the 15 projects included in this report enrolled a total of 2,060 participants, ranging from 30 to 317 per project, with an average of 137. Of the above total, 918 (45%) were enrolled at the time this questionnaire was completed. Current enrollment ranged from 0 to 175 with an average of 63 students per project.

Three hundred eighty-four COP graduates were employed in professional capacities in the 15 school systems: 368 (96%) as teachers; 16 (4%) in non-teaching professional capacities.

Eleven projects report an additional 65 graduates employed in other school systems. Thirty-four COP graduates are reported by 11 projects as working in fields other than education.

Ninety-three (24%) of the 384 COP graduates employed in the 15 school systems were taking graduate-level courses; 66 (71%) of these were enrolled in degree programs. (Two COP graduates already have received M.A. degrees.)

Sex, veteran, ethnic, and age breakdowns were roughly parallel for present COP participants, COP graduates employed by school systems as teachers, and COP graduates employed in non-teaching capacities. The notable exception is the sex breakdown of non-teaching professionals where the ratio is one to one. Among present COP participants and graduates employed as teachers, the ratio is roughly four females to one male. The largest ethnic group represented in each of the three categories is Black, with 75 percent of the non-teaching positions, 71 percent of present participants, and 66 percent of teachers. The age groups most frequently represented were from 20-30 and 31-40; the 20 to 30 age group predominates in non-teaching capacities.

Compared with the teaching staff in school districts where they were employed, the COP graduates were more likely to be older and more likely to be Black, Spanish-Surnamed, or Native American.

Approximately 80 percent of the 368 COP graduates employed as teachers in the 15 school systems were assigned to classrooms where the majority of children were of the same ethnic or racial background as the COP graduate. The percentage of teachers thus assigned ranged from 17 percent to 100 percent per school system, with seven school systems having 100 percent.

Of the criteria used for selection of COP participants, "residence in the community" was considered important by 14 of the projects. "Financial need" was rated as important by 13 projects, followed by "perceived potential ability" and "ethnic and cultural considerations" at 11 projects each.

All 15 projects adapted college entrance requirements and/or course offerings to some degree in order to meet the educational needs of participants, project goals, and the integrated work-study experience. Thirteen projects either waived or modified entrance requirements, while 11 projects developed new courses or modified existing course content and/or methodology.

While employed in a school, the COP participants' work was evaluated by either school personnel (teachers, supervisors, or principals) or a combination of school, institution of higher education, and/or COP staff.

The three primary program goals listed by COP project directors were, in order of importance: (1) to improve the lives of participants by expanding career opportunities; (2) to improve the education of children, particularly low-income and minority ethnic students; and (3) to improve teacher education by providing alternative methods of training. Fourteen projects gave priority to improving the lives of participants; 10 projects noted improvement of the education of children; and six projects noted improved teacher education.

Thirteen of the 15 project directors believed the COP program goals differed from traditional teacher preparation programs. Of the 13, two stated that the goals differed "completely," seven that they differed "a great deal," and four that they differed "somewhat."

All of the project directors felt there had been cooperation between the COP projects and the other educational programs at the college or university. The majority (9) stated that there had been "a great deal of cooperation," and six stated that there had been "some." Fourteen respondents felt that the COP project had an impact on the institution of higher education's traditional practices and/or policies; six felt this impact had been "significant." Areas noted as having been most affected were "entrance requirements" followed by "curriculum and course content."

The Findings

Axis 1 - The Person

1. Age, Sex, and Ethnicity

One hundred thirty-four COP graduates employed at the 15 projects' districts participated in this evaluation. Thirty-three (25%) were male and 101 (75%) were female. Of the 95 non-COP trained beginning teachers in the study, 15 (16%) were male and 80 (84%) were female.[1]

Responses from the COP-trained teachers indicated an age range from 20 to 54 with a mean of 35. Male COP teachers ranged from 22 through 54 with a mean age of 32. Female COP teachers ranged from 20 to 54 with a mean age of 37.

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[1] The following narrative and tables present information provided by the return of 152 questionnaires out of a total of 229 questionnaires distributed to the sample populations. Some questionnaires were returned only partially completed. Consequently, the N cited for certain characteristics may change inasmuch as some questions were left unanswered.

		Questionnaires Distributed		Questionnaires Returned
COP		134		90
Non-COP		95		62
	T =	229	T =	152 (66%)

Table IV - 1

Age and Sex of COP Graduates Employed at 15 Sites

Age Groups	% of Total Number	% of Total Number Male	Female
20-25	12	1	11
26-30	30	18	12
31-35	16	2	14
36-40	6	1	5
41-45	18	2	16
46-50	10	2	8
51 - over	8	1	7

Non-COP teachers ranged in age from 20 to 50 with a mean age of 26. Male non-COP teachers ranged from 23 to 28 with a mean age of 24. Female non-COP teachers ranged from 20 to 50 with a mean age of 27.

Table IV - 2

Age and Sex of Non-COP Teachers

Age Groups	% of Total Number	% of Total Number Male	Female
20-25	64	20	44
26-30	23	4	19
31-35	2	0	2
36-40	5	0	5
41-45	2	0	2
46-50	4	0	4
51 - over	0	0	0

As the tables indicate, among both COP and non-COP teachers the male were generally younger than females, and the COP teachers averaged 9 years older than the non-COP teachers.

Table IV - 3

Ethnicity of COP and Non-COP teachers

Groups	COP		% of Total	Non-COP		% of Total
	Male n=25	Female n=65		Male n=12	Female n=50	
American Indian	0	7	8	0	2	3
Black	15	32	52	3	13	26
Spanish-Surnamed	3	8	12	2	4	10
Oriental	0	0	0	0	1	2
Other	7	18	28	7	30	60

Among the COP teachers, Blacks represented more than half (52%) of the total. Among the non-COP teachers, Blacks represented half that total (26%).

For all groups but Other, the COP teachers were more likely than the non-COP teachers to be teaching classes in which a majority of the students were of the same ethnic or racial background as the teacher. Of the 72 COP respondents, 55 (76%) were teaching classes in which a majority of the students were of the same ethnic background as the teacher. Four (7%) were American Indian, 28 (51%) were Black, 9 (16%) were of Spanish-Surname, and 14 (25%) were Other. Of the 44 non-COP respondents, 22 (50%) were teaching classes in which a majority of the students were of the same ethnic background as the teacher. One (5%) was American Indian, 10 (45%) were Black, 3 (14%) were of Spanish-Surname, and 8 (36%) were Other.

Table IV - 4

Teacher and Majority of Pupils of the Same Ethnic Background

	American Indian	Black	Spanish Surnamed	Oriental	Other	Total
COP n=72	4 (7%)	28 (51%)	9 (16%)	0	14 (25%)	55 (76%)
Non-COP n=44	1 (5%)	10 (45%)	3 (14%)	0	8 (36%)	22 (50%)

Education

We have already seen the fields in which COP graduates worked (Table III - 1). Here we examine their areas of specialization in college, as well as that of the non-COP trained teachers. The 70 COP teachers (84%) who specialized in Elementary Education were clearly the majority. Eight (10%) specialized in Secondary Education making it the second largest group, while three (4%) majored in Special Education and one (1%) in Geology.

Forty-two non-COP teachers (78%) specialized in Elementary Education, which accounted for a substantial majority of both non-COP as well as COP teachers. Secondary Education was the second most popular area for both groups. The four non-COP respondents (7%) in Special Education parralleled the COP teachers third largest area of specialization.

Table IV - 5

Areas of College Specialization of COP and Non-COP teachers

	COP	% of Total n=83	Non-COP	% of Total n=54
Elementary Education	70	84	42	78
Secondary Education	8	10	6	11
Guidance and Counseling	1	1	0	0
Special Education	3	4	4	7
Other--				
Sociology	0	0	1	2
Home Economics (Child Development)	0	0	1	2
Geology	1	1	0	0

Of the 60 COP responses pertaining to grade point average, the mean was 3.2. The 51 responses concerning grade point average in Educational Methods indicate an average of 3.3. Of the 55 non-COP responses pertaining to grade point average, the mean was 3.0. The fifty responses concerning grade point average in Educational Methods indicate a mean of 3.4.

Table IV - 6

Grade Point Averages of COP and Non-COP Teachers

	Grade Point Average, Overall	Grade Point Average in Educational Methods
	n=60	n=51
COP	3.2	3.3
	n=55	n=50
Non-COP	3.0	3.4

Student teaching grades were awarded on a variety of bases at the various colleges and universities (a 4.0 scale, Pass/Fail, competency assessments). Overall, the same similarity of grades between COP and non-COP graduates held true for grades in student teaching.

Table IV - 7

Student Teaching Grade of COP and Non-COP Teachers

	A	B	Pass	Satisfactory	Other Passing Grade
COP n=78	38 (49%)	13 (17%)	15 (19%)	4 (5%)	8 (10%)
Non-COP n=53	27 (51%)	11 (21%)	9 (17%)	0	6 (11%)

While the grades of two groups were essentially the same, the COP graduates were significantly more satisfied with their college program than were the non-COP graduates.

Table IV - 8

Feelings of Adequacy Regarding College Training

	Adequate	Not Adequate
COP n=88	80 (91%)	8 (9%)
Non-COP n=59	42 (71%)	17 (29%)

Both in terms of their stated desires and the activities to date, the COP teachers appear to be more interested than the non-COP teachers in pursuing a post-baccalaureate education.

Table IV - 9

Post-Baccalaureate Education

	Enrolled in Graduate Program		Plan on Pursuing Master's Degree	
	Yes	No	Yes	No
COP n=85	29 (34%)	56 (66%)	n=52 46 (88%)	6 (12%)
Non-COP n=60	16 (27%)	44 (73%)	n=40 31 (77%)	9 (23%)

In sum, the group of COP-trained teachers compared with the non-COP trained teachers included slightly more males (29% vs. 23%), were significantly older (mean age of 36 and 26, respectively), and more likely to be Black (52% and 26%. respectively).

In terms of their experience in their respective teacher education programs, both the COP and non-COP trained teachers performed at about the same level as measured by grades. Both groups were predominantly in Elementary Education (84% and 78%, respectively). The COP-trained teachers were more satisfied with their preparation (91% compared with 71%) and more likely to have already enrolled in or planned to pursue a Masters degree.

Attitudes

The Gordon Personal Profile and Personal Inventory

Information on the attitudes of the two groups, the COP and non-COP trained teachers, was gathered, measured and compared through use of two sets of instruments, the Gordon Personal Profile and Personal Inventory and the Minnesota Teacher Attitude Inventory. The two Gordon instruments build individual and group profiles by measuring eight separate qualities believed relevant to teacher performance and which are susceptible to quantification. Table IV - 10 presents the scores of the COP and non-COP trained teachers on these eight scales; the description of the quality measured is excerpted from the test handbook.

Table IV - 10

Gordon Personal Inventory and Personal Profile: Eight Scales

Scale One: Cautiousness (C) - Individuals who are highly cautious, who consider matters very carefully before making decisions, and do not like to take chances or run risks, score high on this scale. Those who are impulsive, act on the spur of the moment, make hurried decisions and enjoy taking chances score low on this scale.

COP (n=93)		Non-COP (n=67)	
$\bar{X}$	SD	$\bar{X}$	SD
28.99	7.50	27.94	5.75

Scale Two: Original Thinking (O) - High scoring individuals like to work on difficult problems, are intellectually curious, enjoy thought provoking questions and discussions, and like to think about new ideas. Low scoring individuals dislike working on difficult or complicated problems, do not care about acquiring knowledge, and are not interested in thought provoking questions or discussions.

COP (n=93)		Non-COP (n=63)	
$\bar{X}$	SD	$\bar{X}$	SD
28.21	7.05	24.84	5.60

Scale Three: Personal Relations (P) - High scores are made by those individuals who have great faith and trust in people, and are tolerant, patient, and understanding. Low scores reflect a lack of trust or confidence in people, and a tendency to be critical of others and to become annoyed or irritated by what others do.

COP (n=93)		Non-COP (n=67)	
$\bar{X}$	SD	$\bar{X}$	SD
28.46	6.69	26.82	5.45

Scale Four: Vigor (V) - High scores on this scale characterize individuals who are able to accomplish more than the average person. Low scores are associated with low vitality or energy level, a preference for setting a slow pace, and a tendency to tire easily and be below average in terms of sheer output or productivity.

COP (n=93)		Non-COP (n=67)	
$\bar{X}$	SD	$\bar{X}$	SD
27.32	6.60	24.94	5.77

Scale Five: Ascendancy (A) - Those individuals who are verbally ascendent in relationships with others, and who tend to make independent decisions, score high on this scale. Those who play a passive role in the group, who listen rather than talk, who lack self-confidence, who let others take the lead, and who tend to be overly dependent on others for advice, normally make low scores.

COP (n=99)		Non-COP (n=67)	
$\bar{X}$	SD	$\bar{X}$	SD
23.59	6.32	20.10	5.24

Scale Six: Responsibility (R) - Individuals who are able to stick to any job assigned them, who are persevering and determined, and who can be relied on, score high on this scale. Individuals who are unable to stick to tasks that do not interest them, and tend to be flightly or irresponsible, usually make low scores.

COP (n=99)		Non-COP (n=67)	
$\bar{X}$	SD	$\bar{X}$	SD
29.04	5.70	27.57	5.12

Scale Seven: Emotional Stability (E) - High scores on this scale are generally made by individuals who are well-balanced, emotionally stable, and relatively free from anxieties and nervous tension. Low scores are associated with excessive anxiety, hypersensitivity, nervousness, and low frustration tolerance. Generally, a very low score reflects poor emotional balance.

COP (n=99)		Non-COP (n=67)	
$\bar{X}$	SD	$\bar{X}$	SD
26.96	6.69	25.12	4.66

Scale Eight: Sociability (S) - High scores are made by individuals who like to be with and work with people, and who are gregarious and sociable. Low scores reflect a lack of gregariousness, a general restriction in social contacts, and, in the extreme, an actual avoidance of social relationships.

COP (n=99)		Non-COP (n=67)	
$\bar{X}$	SD	$\bar{X}$	SD
22.19	6.63	19.95	6.11

A comparative statistical analysis of the eight indices indicates that in all cases the COP respondents had a higher mean score than the non-COP respondents.

On the scales for Cautiousness, Personal Relations, Responsibility, and Emotional Stability, no significant differences were found between the mean scores of the two groups; however, on the scales for Original Thinking, Vigor, Ascendancy, and Sociability significant differences did appear.

The table below indicates the F ratios obtained for each of the scales.

Table IV - 11

Gordon Personal Inventory and Personal Profile: F Ratio

	COP			Non-COP			
Scale	$\bar{X}$	SD	n	$\bar{X}$	SD	n	F Ratio
Cautiousness	28.99	7.50	93	27.94	5.75	67	.70
Original Thinking	28.21	7.05	93	24.84	5.60	67	10.63**
Personal Relations	28.46	6.69	93	26.82	5.45	67	2.11
Vigor	27.32	6.60	93	24.94	5.77	67	5.62**
Ascendancy	23.59	6.32	99	20.10	5.24	67	13.9**
Responsibility	29.04	5.70	99	27.57	5.12	67	.81
Emotional Stability	26.96	6.69	99	25.12	4.66	67	1.57
Sociability	22.19	6.63	99	19.95	6.11	67	4.83**

* > .05

** > .01

The significance of these differences is seen as a result of further statistical analysis.

Table IV - 12

Gordon Personal Inventory and Personal Profile: Critical Ratio Table of Differences in Mean Scores on Four Scales of Personal Characteristics

	COP				Non-COP					
Scale	$\bar{X}$	SD	n	df	$\bar{X}$	SD	n	df	Critical Ratio	
Original Thinking	28.21	7.05	93	92	24.84	5.60	67	66	3.37	.05
Vigor	27.32	5.60	93	92	24.94	5.77	67	66	2.38	.05
Ascendancy	23.59	6.32	99	98	20.10	5.24	67	66	3.49	.05
Sociability	22.19	6.63	99	98	19.95	6.11	67	66	2.24	.05

The Minnesota Teacher Attitude Inventory

Data analysis of the responses of COP trained teachers and non-COP trained teachers to the Minnesota Teacher Attitude Inventory (MTAI) indicated that no statistically significant differences existed in the mean scores obtained by both groups.

The following tables portray the responses by the two groups. Inasmuch as the MTAI is an attitude survey, there are no strictly "right" or "wrong" answers. There are, rather indications of agreement and disagreement with specific attitude statements. In order to avoid a change in accepted terminology, however, in the following tables we have assigned the more commonly used labels "right" and "wrong" to describe reactions to the 150 statements which comprise the survey. While no implication of correctness or incorrectness of answers is intended, we do assume that a teacher ranking at the high end of the scale should be able to maintain a state of harmonious relations characterized by mutual affection and sympathetic understanding with his or her pupils.

At the other extreme of the scale is the teacher who attempts to dominate the classroom. He or she may be successful and rule with an iron hand, creating an atmosphere of tension, fear and submission; or, he/she may be unsuccessful and become nervous, fearful and distraught in a classroom characterized by frustration, restlessness, inattention, lack of respect and numerous disciplinary problems.

Table IV - 13

"Right" Scores on the MTAI, Form A

Group	N	$\overline{X}$	S.D.
COP	107	82.75	16.63
Non-COP	71	80.19	18.65

t=0.9557 F=0.9134 N.S.

Table IV - 14

"Wrong" Scores on the MTAI, Form A

Group	N	$\overline{X}$	S.D.
COP	107	53.99	18.51
Non-COP	71	55.66	19.89

t=0.5723 F=0.3276 N.S.

The "wrongs" score is subtracted from the "right" score to obtain an attitude score.

Table IV - 15

Attitude Scores on the MTAI, Form A

Group	N	$\overline{X}$	S.D.
COP	107	30.62	33.94
Non-COP	71	27.74	36.24

t=0.5312 F=0.2822 N.S.

Although the mean scores are not statistically significant, the COP-trained teachers, on an average, scored higher than non-COP trained teachers in their positive attitude towards teaching.

Axis 2 - The Process

Classroom observation was one of the means used to ascertain the efficacy of teacher performance. All of the COP trained teachers and, when available, their non-COP trained counterparts were observed on two occasions for a duration of at least forty minutes each visit. In some cases, as a result of unexpected scheduling changes, return visits were necessary, thereby adding up to a total observation time of three to four hours over the course of the academic year.

Two measurement instruments were used: (1) Ryans Classroom Observation Record[1] and (2) the Flanders Interaction Coding Scheme developed by Ned A. Flanders and Paul S. Amidon. (Samples of both may be found in Appendix 4).

On a trial basis, the observers visited six classrooms to use the Ryans Record in both rural and urban school settings. Although these observations were made simultaneously, the observers recorded their reactions independently to ascertain the degree of inter-rater reliability. It was found that, after an initial comparison of records, the raters were in agreement in 85% of the cases, thus increasing the probability that a relatively high degree of uniformity could be expected and individual rater bias could be minimized. As a further safeguard, another observer, trained with the original group, but unaware of the subjects' background, accompanied each of the observers to a site. Again, both observers visited the classroom together and then compared records. In these cases, inter-rater reliability varied in a 80-95% range.

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[1] This Classroom Observation Record is an abbreviated version of the multi-item scale developed by Professor David Ryans for his landmark study of teacher characteristics in the early 1950's.

Ryans Classroom Observation Record

An analysis of data provided by Ryans Classroom Observation Record indicates that, when factor analyzed, the items can be grouped as follows:

Factor X = Understanding, Friendly vs. Aloof, Egocentric
Factor Y = Responsive, Systematic vs. Evading, Unresponsive
Factor Z = Stimulating, Imaginative vs. Dull, Moribund

On all three Factors, the scores of the COP-trained teachers were higher than those of the non-COP trained, and the differences, although small, were statistically significant.

Table IV - 16

Ryans Classroom Observation Record, Factors X, Y, and Z

Factor X

	N	$\bar{X}$	SD
COP	98	29.94	4.66
Non-COP	88	27.81	5.35
(df = 184)		$t = 2.9 > 0.1$	

Factor Y

	N	$\bar{X}$	SD
COP	98	29.40	5.21
Non-COP	88	27.65	5.42
(df = 129)		$t = 2.24 > .01$	

Factor Z

	N	$\bar{X}$	SD
COP	98	11.49	2.15
Non-COP	88	10.49	2.42
(df = 129)		$t = 2.98 > .01$	

A further analysis of the scores when differentiated by sex of respondents indicated that COP-trained teachers of both sexes had higher mean scores than did the non-COP trained male and female teachers on all three variables (Factors X, Y, Z) and, although no statistically significant difference was established between males, the difference was statistically significant for females.

Flanders Interaction Analysis Categories

As the name indicates, Flanders' instrument provides a means to analyze the interaction between teacher and student in the classroom. A coding sheet is used which employs ten categories of teacher-student verbal interaction.

The ten categories are:

1.	Acceptance or clarifies feelings	Teacher Response	Total Teacher Talk
2.	Praises or encourages		
3.	Accepts or use ideas of student		
4.	Asks questions		
5.	Lectures	Teacher Initiated	
6.	Gives directions		
7.	Criticizes or justifies authority		
8.	Student response to a teacher contact which structures or limits the situation		Total Student Talk
9.	Student-initiated conversation		
10.	Silence or confusion		

All classrooms, COP and non-COP, were visited twice. Because teacher-student interaction is only a part of classroom activities, in order to obtain a total of forty minutes of verbal interaction for coding, frequently the time spent in the classroom exceeded two hours. Data were analyzed separately for each category and then by groupings of categories (1-3, 5-7, 1-7, 8-9 in above sketch), for each visit and then as a total.

The statistical method used to analyze the "tallies" recorded for the ten categories of teacher/student interaction on the Flanders scale was to treat the data as a frequency distribution, a simple tabulation of quantitative data by category. The "count" for each category was than converted into a percentage of time spend in activities associated with each category[2] and these percentages were then rank-ordered to identify the median of the rank ordered distribution. The data were then analyzed using a Median Test (Chi Square Test of Independence). This presumes that while the amount of time spent in any given category may vary from teacher to teacher, the ratio of COP trained and non-COP trained teachers above and below the Median should be about the same. If the ratio is not the same, this test indicates the probability of this difference being attritutable to chance.

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[2] The observers were trained to record a "tally" every three seconds. The completed tally sheets are fairly uniform as to their length as determined by the total number of tallies or checkmarks. Since the time spent recording by the observer was similarly uniform, it may be assumed that there was consistency in intervals between "tallies." This is an important consideration because it provides support for the validity of the conversion approach and bolsters the assumption that the percentages are a fairly accurate reflection of time spent.

Although the two terms are ordinarily not used interchangeably, a frequency distribution is in effect a crossbreak.[3] A crossbreak occurs when data in a simple frequency distribution are subjected to more detailed, secondary analysis involving camparisons of different variables. These variables are juxtaposed so that relations among the variables may be studied.

The variables were: (1) Total Teacher Talk, representing the portion of time spent by the teacher in verbal communication, whether teacher initiated or in response to students, out of the total time of codable classroom observation. (2) Teacher-Initiated Talk only, (3) Responsive Teacher Talk to pupils, and (4) Student Talk, whether student-initiated or in response to the teacher. Of the 197 teachers observed, 113 (58%) were COP-trained teachers, while 84 (42%) were non-COP trained teachers.

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[3] As Isaac and Michael (Handbook in Research and Evaluation, Robert R. Knapp, San Diego, California, 1971) points out, the crossbreak is one of the most useful graphic displays in data analysis. It can be used with nearly any kind of data and has the graphic power of pointing up similarities and differences in sharp contrast. Among its purposes is: (1) facilitating the study and analysis of relations by arranging data into tabular frequencies which clearly display trends and patterns in the relationship, (2) offering the opportunity to study and test a relationship between two variables while controlling for the effect of a third variable thus unmasking "spurious" relationships and (3) clarifying research problems during the problem formulation phase of research. Fred N. Kerlinger Foundations of Behavioral Research (Holt, Rinehart and Winston, Inc., 1964, pp. 625-649) and J.P. Guilford, Fundamental Statistics in Psychology and Evaluation (McGraw-Hill, 1965, pp. 333-338) also sustain this point.

During the first visitation, the median percentage of time for Total Teacher Talk (variable number 1)[4] for a combined group of COP-trained and non-COP trained teachers was .359 with a range of .189 to .722. Since .359 represents the median or the point that 50 percent of the teachers are above and 50 percent below, it could be expected that both COP - and non-COP trained teachers would be evenly distributed in the rankings. (As the rank order of these four variables represents an ascendancy, rankings above the median indicate more time spent at any of the four activities.)

Table IV - 17

Differences Between COP and Non-COP Teachers for Variable Number 1 (Visit 1)

	Non-COP	COP	Total
Below Median	43 (51%)	55 (49%)	100
Above Median	41 (48%)	58 (51%)	97
df = 1		X^2 = 0.042 (NS)	n=197

The rank order indicates that 55, (49%) of the COP-trained teachers fell below the median while 58 (51%) were above it. Furthermore, the rank order also indicated that the non-COP trained teachers were equally distributed above and below the median. A chi square test revealed no significant difference in the amount of time spent in total teacher talk by the COP-trained and non-COP trained teachers.

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[4] This variable included categories 1, 2, 3, 4, 5, 6, and 7 of the Flanders Scale (a copy of this ten category scale is in Appendix 4).

During the first visitation, the median percentage of time for Teacher-Initiated Talk (variable number 2)[5] for the combined group of COP-trained and non-COP trained teachers was .261, with a range of .056 to .632.

Table IV - 18

Differences Between COP and Non-COP Teachers for Variable Number 2 (Visit 1)

	Non-COP	COP	Total
Below Median	37 (44%)	63 (55%)	100
Above Median	47 (56%)	50 (44%)	97

df = 1 X^2 = 2.193 (NS) n=197

The rank order indicates that 63 (55%) of the 113 COP-trained teachers fell below the median and 50 (44%) were above the median. An examination of the rank order of the non-COP trained teachers indicated that 37 (44%) were below the median and 47 (56%) were above it. Although a chi square analysis indicates no significant differences in the characteristic of Teacher-Initiated Talk on the part of COP-trained and non-COP trained teachers, a higher percentage of the non-COP trained teachers tended to become more involved in Teacher-Initiated Talk than did their COP-trained counterparts.

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[5] This variable included categories 5, 6, and 7 on the Flanders Scale.

During the first visitation, the median percentage of time found for Responsive Teacher Talk (variable number 3)[6] was .152, with a range of .013 to .035.

Table IV - 19

Differences Between COP and Non-COP Teachers for Variable Number 3 (Visit 1)

	Non-COP	COP	Total
Below Median	50 (59%)	50 (44%)	100
Above Median	34 (40%)	63 (55%)	97

df = 1 X^2 = 3.908 .048 n=197

The rank order indicates that 50 (44%) of the COP trained teachers were below the median, while 63 (55%) were above the median. In the case of non-COP trained teachers, 50 (59%) were below the median, while the remaining 34 (40%) were above it. A median test for significant differences indicates no statistically significant differences between the two groups.

During the first visitation, the medican percentage of time found for Student Talk (variable number 4)[7] was .314, with a range of .127 to .722

Table IV - 20

Differences Between COP and Non-COP Teachers for Variable Number 4 (Visit 1)

	Non-COP	COP	Total
Below Median	45 (53%)	53 (46%)	98
Above Median	39 (46%)	60 (53%)	99

df = 1 X^2 = 0.611 n=197

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[6] This variable included categories 1, 2, and 3 above.

[7] This variable included categories 8 and 9, above.

The rank order indicates that 53 (46%) of the COP-trained teachers were below the median while 60 (53%) were above the median. In the case of non-COP trained teachers, 45 (53%) were below the median, while the remaining 39 (46%) were above it. A median test for significant differences indicated that there was no statistically significant difference between the two groups.

One hundred and eighty-two (182) teachers were observed during the second round of visitations. Of this number, 103 (56%) were COP-trained teachers, while 79 (44%) were non-COP trained teachers. During this second visitation, the median percentage of time for Total Teacher Talk (variable number 1) was .359, with a range of .095 to .651.

Table IV - 21

Differences Between COP and Non-COP Teachers for Variable Number 1 (Visit 2)

	Non-COP	COP	Total
Below Median	34 (43%)	57 (55%)	91
Above Median	45 (57%)	46 (44%)	91

df = 1 X^2 = 2.24 (NS) n=182

The rank order indicates that 57 (55%) of the COP-trained teachers were below the median, while 46 (44%) were above the median. In the case of non-COP trained teachers, 34 (43%) of the non-COP trained teachers were below the median while 45 (57%) were above it. A median test for significance of the difference indicated that there was none.

During the same visitation, the median percentage of time for Teacher Initiated Talk (variable number 2) was .245, with a range of .075 to .731. It was found that a total of 56 (54%) of the COP-trained teachers were below the median, while 47 (45%) were above the median. In the case of non-COP trained teachers, 36 (46%) were below the median, while 43 (54%) were above it. A median test for significant differences indicated the difference between the median scores of the two groups was not statistically significant.

Table IV - 22

Differences Between COP and Non-COP Teachers for Variable Number 2 (Visit 2)

	Non-COP	COP	Total
Below Median	36 (46%)	56 (54%)	92
Above Median	43 (54%)	47(45%)	90

df = 1 X^2 = 1.06 (NS) n=182

During the second visitation, it was found that the median percentage of time for the third variable, Responsive Teacher Talk, was .195, with a range of .011 to .607.

Fifty-three (42%) of the COP-trained teachers were below the median, while the remaining 60 (48%) were above the median. In the case of the non-COP teachers 49 (62%) were below the median, while 30 (38%) were above it. A median test on the differences indicated that the difference was statistically significant.

Table IV - 23

Differences Between COP and Non-COP Teachers
for Variable Number 3 (Visit 2)

	Non-COP	COP	Total
Below Median	49 (62%)	43 (42%)	92
Above Median	30 (38%)	60 (58%)	90

df = 1 X^2 = 6.566 .01 n=182

During the second visitation, the median percentage of time for Student Talk (variable number 4) was .305, with a range of .042 to .651. It was found that 53 (51%) of the COP-trained teachers were below the median, while 50 (48%) were above it.

In the case of non-COP trained teachers, 39 (49%) of the teachers were below the median, while the remaining 40 teachers (50%) were above the median. A median test for statistical significance indicated no statistically significant differences between the two groups.

Table IV - 24

Differences Between COP and Non-COP Teachers
for Variable Number 4 (Visit 2)

	Non-COP	COP	Total
Below Median	39 (49%)	53 (51%)	92
Above Median	40 (50%)	50 (48%)	90

df = 1 X^2 = 0.017 (NS) n=182

The following table indicates the difference between the medians of the two groups for the four variables for both visits.

Table IV - 25

Differences Between COP and Non-COP Teachers for Variable 1-4, Both Visits

Variable	visit	COP N=113, visit 1 N=103, visit 2 #Above Median	 #Below Median	MEDIAN*	Non-COP N=84, visit 1 N=79, visit 2 #Above Median	 #Below Median	
1. Total Teacher Talk	1	58 (51%)	55 (49%)	.359(.189-.722)	41 (48%)	43 (51%)	
	2	46 (44%)	57 (55%)	.359(.095-.651)	45 (57%)	34 (43%)	
2. Teacher Initiated Talk	1	50 (44%)	63 (55%)	.261(.056-.632)	47 (56%)	37 (44%)	
	2	47 (45%)	56 (54%)	.245(.075-.731)	43 (54%)	36 (46%)	
3. Responsive Teacher Talk	1	63 (55%)	50 (44%)	.152(.013-.135)	34 (40%)	50 (59%)	
	2	60 (58%)	43 (42%)	.195(.011-.607)	30 (38%)	49 (62%)	0.1
4. Student Talk	1	60 (53%)	53 (46%)	.314(.127-.722)	39 (46%)	45 (53%)	
	2	50 (48%)	53 (51%)	.305(.042-.651)	40 (50%)	39 (49%)	

*Numbers in the parentheses indicate the range

A more detailed category by category analysis of the ten categories on the Flanders Interaction Scale indicates that obvious differences do exist when the cross-tabulations for each category are reviewed.

Table IV - 26

Cross-tabulations for Categories 1-10 of The Flanders Interaction Analysis Categories, Both Visits

Category		COP N=113 Visit 1 N=105 Visit 2			Non-COP N=84 Visit 1 N=79 Visit 2	
	visit	Above Median	Below Median		Above Median	Below Median
1. Accepts Feeling	1	38(34)	75(66)	0.01	28(33)	56(67)
	2	30(29)	73(70)	0.55	28(35)	51(64)
2. Praises/Encourages	1	69(61)	44(39)	11.39**	30(36)	54(64)
	2	53(51)	50(48)	5.52**	26(33)	53(67)
3. Accepts Students' Ideas	1	55(48)	58(51)	0.28	45(54)	39(46)
	2	52(50)	51(50)	0.0	39(49)	40(51)
4. Asks Questions	1	58(51)	55(48)	0.0	44(52)	40(47)
	2	44(43)	59(57)	5.2*	48(60)	31(39)
5. Lectures	1	51(45)	62(55)	2.85	49(58)	35(41)
	2	50(48)	53(52)	0.002	39(49)	40(50)
6. Gives Directions	1	58(51)	55(48)	0.04	41(48)	43(51)
	2	50(48)	53(52)	0.22	42(53)	37(46)
7. Teacher Criticizing Student	1	51(45)	62(54)	2.32	48(57)	36(42)
	2	45(44)	58(56)	3.86*	47(69)	32(40)
8. Student Talk (Response)	1	58(51)	55(48)	0.04	41(48)	43(51)
	2	48(45)	52(54)		45(57)	34(43)
9. Student Talk (Initiation)	1	63(55)	50(44)	2.19	37(44)	47(56)
	2	58(55)	47(44)		33(41)	46(58)
10. Silence	1	49(42)	64(57)	3.74*	49(58)	35(41)
	2	49(45)	56(53)		43(54)	36(45)

*Numbers in Parentheses are Percentages

Significance
* .05
** .01

The data in Table IV - 26 presents some interesting patterns which merit further comment. The first comment is related to category 1 - Accepts Feelings. At first glance, the reader might conclude that there is an error in the table since when cross-tabulated, the sum of the values below the median does not represent fifty percent of the scores as should be expected in a "median test." These data are exceptions to the rest of the table for the true median score is 0.00. Since a score of zero remains up until the sixtieth percentile, one cannot determine a true median without carrying out tabulations to additional places of significance. This action would imply a degree of precision not really present so the tallies really reflect the number of scores above or below zero.

The next pattern of interest deals with identification of significant differences favoring the COP teacher. According to the data in categories 2 and 9,in COP classrooms more of the total class time is spent in Student Initiated Talk (55% COP - 44% Non-COP) and similarly, more of the teacher talk is spent in praise and encouragement of student talk (61% COP, 31% non-COP). The reader is reminded that this is the type of classroom environment purported to be associated with good teaching.

A third pattern of interest also deals more favorably with the COP teachers' classrooms. According to the data for Categories 4, 5, and 7, non-COP teachers are more likely to spend a greater proportion of time asking questions likely to elicit short-one word responses, as opposed to a greater amount of Student Talk in the COP-trained teachers' classrooms, as reported in category 9. During the first visit, more time was spent in lecture, criticizing student behavior, and more time spent in silence or confusion. Again, all these differences indicate a pattern in favor of the COP teacher and in a manner purported to be related to good teaching.

Principal Questionnaire

The third instrument used to assess the process was a forty-item questionnaire, developed by the New Careers Training Laboratory staff. Consisting of a listing of personal traits and attributes along with work habits and achievement goals, the questionnaire provides the basis for a comparison by building principals or other supervisory personnel of the performance of COP and non-COP trained teachers on the one hand, and that of other previously assessed first year teachers on the other.[8]

After collecting the 184 completed instruments, but prior to scoring them, the instrument was factor analyzed.[9]

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[8] The questionnaire was based in part the findings of Luther E. Bradfield, Supervisor for Modern Elementary Schools (Boston: Charles E. Merril Books, Inc., 1964) and John McNeil, Supervisor: A Synthesis of Thought and Action (New York: McGraw-Hill Book Company, Inc., 1962). Consultations were also held with faculty of educational administration at Queens College, St. John's University, and the University of Rhode Island, and with principals and supervisors in Providence and New York City.

[9] Factor analysis is a method for determining the number and nature of the underlying variables among large numbers of measures. In a sense, factor analysis serves the cause of scientific parsimony. Thus, if two sets of items measure the same thing, the scores obtained from them can be added together; if, on the other hand, the two sets do not measure the same thing, they cannot be summated. Factor analysis tells us which items can be "clustered" and studied together and, conversely, which items must be studied separately.

Three major clusters were identified and arbitrarily labled: Factor One - General Teaching Characteristics; Factor Two - Attitudinal Responses Toward Referent Groups; Factor Three - Leadership Skills.

Table IV - 27

Factor Loadings on the Principal Instrument

Item	Factor 1	Factor 2	Factor 3
1	.74551		
2	.65870		
3	.73277		
4	.75556		
5	.69584		
6	.71400		
7	.67871		
8		.57583	
9		.44469	
10			.64128
11			.71520
12			.52919
15		.70157	
16		.76111	
17		.80740	
18		.80644	
19		.63875	
20		.62810	
21		.65019	
22		.67223	
23		.59445	
24		.75413	
25	.60625		
26	.49162		
27	.65763		
28	.76957		
29	.76411		
30	.64945		
31	.66488		
32	.57646		
33		.73508	
34	.49416		
35		.54726	
36	.51485		
37	.60247		
38	.62669		
39		.53902	
40		.42219	

The instrument was then rescored on the basis of these clusters of items and the results are reported in Tables IV - 28 through 30.

Table IV - 28

Principal Assessment: Factor One
(General Teaching Characteristics)

	$\overline{X}$	SD	N
Non-COP	59.1139	15.5390	79
COP	67.6306	15.4195	111

F = 13.990

Table IV - 29

Principal Assessment: Factor Two
(Attitudinal Response Towards Referent Groups)

	$\overline{X}$	SD	N
Non-COP	39.2785	10.4194	79
COP	43.4775	9.4069	111

F = 8.404

Table IV - 30

Principal Assessment: Factor Three
(Leadership Skills)

	$\overline{X}$	SD	N
Non-COP	7.2532	2.1689	79
COP	8.5135	2.4154	111

F = 13.664

In addition, the instrument was scored overall, independent of the factor loadings. This scoring included all items including those without a factor laoding associated with the three main factors. Here there was a difference in the means of 13 points. This was significant at the .01 level of confidence.

Table IV - 31

Principal Assessment: Overall Score

	$\overline{X}$	SD	N
Non-COP	101.0253	26.1240	79
COP	114.1441	23.9731	111

$F = 12.823 > .01$

Axis 3 - The Product

Piers-Harris Self-Concept Scale

The Piers-Harris Self-Concept Scale is an eighty item instrument which can be administered in a group manner. It requires approximately a third grade reading ability and with the exception of a few items whose vocabularly is dated or more common to cultural groups other than those in this study, it was an instrument which could be administered with a minimum of difficulty. When the instrument was under development, it was analyzed to determine if sex or grade level placement were related to any systematic differences in the means and standard deviations of the scores. None were reported and so it was considered appropriate to pool all of the data and perform the analysis entirely in terms of the type of teacher in the classroom.

Although the overall differences in the means of the two groups is small, it does indicate that the children in classrooms with COP-trained teachers had a more positive self-concept than did the children in the classrooms of the non-COP trained teachers. The difference was statistically significant at the .01 level of confidence.

Table IV - 32

Piers-Harris Self-Concept Scale: Overall Score

	$\overline{X}$	SD	N
Non-COP	52.8538	15.9686	756
COP	54.7673	12.8133	752

F Ratio = 6.585
(Sig. at 0.01)

In addition to analyzing the total score, the data were also analyzed in terms of the six factors originally identified by the test constructors. The six factors are:

I. Behavior - I do many bad things (.66); I am obedient at home (-.64); I am often in trouble (.60); I think bad thoughts (.53); I can be trusted (-.53).

II. Intellectual and School Status - I am good in my schoolwork (-.66); I am smart (-.63); I am dumb about most things (.56); I am a good reader (-.55); I forget what I learn (.53).

III Physical Appearance and Attributes - I am good looking (-.74); I have a pleasant face (-.61); I have a bad figure (.56); I am strong (-.41); I am a leader in games and sports (.53).

IV. Anxiety - I cry easily (-.57); I worry a lot (-.57); I am often afraid (-.55); I get nervous when the teacher calls on me (-.54); I am nervous (-.49).

V. Popularity - People pick on me (-.62); I am among the last to be chosen for games (-.61); It is hard for me to make friends (-.56); I have many friends (.55); I feel left out of things (-.49).

VI. Happiness and Satisfaction - I am a happy (.65); I am unhappy (-.62); I like being the way I am (.60); I wish I were different (-.57); I am cheerful (.42).

The analysis in terms of these factors follows:

Table IV - 33

Piers-Harris: Factor 1 (Behavior)

	$\overline{X}$	SD	N
Non-COP	11.5992	5.5136	756
COP	11.5066	5.5856	752

F = 0.103 N.S.

Table IV - 34

Piers-Harris: Factor 2 (Intellectual and School Status

	$\overline{X}$	SD	N
Non-COP	10.6257	5.3734	756
COP	10.5785	5.3308	752

F = 0.026 N.S.

Table IV - 35

Piers-Harris: Factor 3 (Physical Appearance and Attributes)

	$\overline{X}$	SD	N
Non-COP	6.6534	3.7009	756
COP	6.7074	3.7112	752

F = .082 N.S.

Table IV - 36

Piers-Harris: Factor 4 (Anxiety)

	$\overline{X}$	SD	N
Non-COP	7.0410	3.5639	756
COP	7.0625	3.6987	752

F = 0.014 N.S.

Table IV - 37

Piers-Harris: Factor 5 (Popularity)

	$\overline{X}$	SD	N
Non-COP	6.8175	3.5498	756
COP	6.7726	3.6286	752

F = 0.058 N.S.

Table IV - 38

Piers-Harris: Factor 6 (Happiness and Satisfaction)

	$\overline{X}$	SD	N
Non-COP	6.2222	2.9755	756
COP	6.1330	2.9548	752

F = 0.341

A review of Tables IV - 33 through 38 indicates that while very slight discrepencies occur for each factor none of these differences, when subjected to analysis, appears to be statistically significant. However, when the entire score is considered, the difference is slightly larger and the differences are statistically significant. Thus, while there is no statistically significant difference in terms of the clusters within the overall score, there is a difference in the overall scores. Children in the COP classrooms have a more positive self-concept as reflected by the higher mean self-concept score.

Parent Questionnaire

The Parent Questionnaire, a twenty item instrument, was developed by the project staff at the New Careers Training Laboratory and field tested, soliciting the responses of parents of school children in Providence, Rhode Island prior to final adoption and publication.

The 20 items deal with activities and behaviors on the part of the child which are generally considered as being positive in nature (e.g. "My child says nice things about his/her teacher," or "My child likes to go to school"). The project staff believed that it was important for parents to contribute to the findings. In addition, it was an opportunity to have some measure of children outside of the school setting yet reflective of behaviors and attitudes touched upon at school.

Since many of the parents did not speak English, the need for Spanish editions of the instrument and supporting material was determined for each site. In those cases when Spanish was the only language spoken in the home, Spanish translations of the items were made available to the parents.

The Parent Questionnaire was factor analyzed prior to initial data analysis. The results generated three major factors with loadings in excess of 0.40.

Table IV - 39

Factor Loadings of Parent Instrument

Items	Factor 1	Factor 2	Factor 3
1		.60353	
2		.55982	
3	.66489		
4			.74283
6		.65741	
7		.52874	
8			.80263
10	-.45057		
13	.49473		
14	.59043		
18	-.42943		
20	-.72156		

The instruments were then rescored on the basis of these clusters. In addition, the entire instrument was scored to yield a total score independent of the score clusters.

The three major factors were labelled: Factor One - Attitude Towards School, Factor Two - Attitude Toward Activity in the Classroom, and Factor Three - Attitude Toward Reading. The parents of children in the COP classrooms rated their children's behavior higher than the parents of children in the non-COP classrooms for factors 1 and 2. For factor 3, the reverse was true. In both sets of cases, the differences were significant at the .01 level of confidence.

Table IV - 40

Parent Questionnaire: Factor One
(Children's Attitude Towards School)

	$\overline{X}$	SD	N
Non-COP	22.09	3.99	624
COP	22.78	3.79	716

$t = 3.24 > .01$

Table IV - 41

Parent Questionnaire: Factor Two
(Children's Attitude Towards Activity in the Classroom)

	$\overline{X}$	SD	N
Non-COP	12.14	2.42	624
COP	12.52	2.37	716

$t = 2.84 > .01$

Table IV - 42

Parent Questionnaire: Factor Three
(Children's Attitude Toward Reading)

	$\overline{X}$	SD	N
Non-COP	8.58	2.46	624
COP	8.01	2.61	716

$t = 4.09 > .01$

When the data were reanalyzed on the basis of the overall score, parents of children in the COP classrooms rated the children's behavior higher than the children in the non-COP classrooms. The difference, however, was not statistically significant.

Table IV - 43

Parent Questionnaire: Overall Score

	$\overline{X}$	SD	N
Non-COP	58.84	9.46	624
COP	59.53	8.98	716

Achievement Tests

At all 15 sites, inquiries were made regarding the availability of individual scores from standardized achievement tests. Project staff concerns that there would be little consistency were, regrettably, well-founded. The sites utilized many different achievement tests and none utilized census testing at all grades.

The collection of information yielded data from 43 classrooms in nine of the 15 sites. The data were collected as part of the total data requested about every student. Scores were collected based upon use of the Metropolitan Achievement Tests, the Iowa Test of Basic Skills, The California Test of Basic Skills, The Stanford Primary Test, and the Stanford Achievement Test. Eight of the nine districts reported the data in terms of Grade Equivalent Scores.

Administrators at many of the 15 sites had extreme reservations about additional testing of children, and, as most districts were to be doing some type of achievement tests in conjunction with the local special programs, it was decided, therefore, to utilize local test data, a decision consistent with the original policy to use locally generated data where possible. The local testing periods (elapsed time between pre- and post-test administration) varied from four to 12 months. Ten of the districts tested between September and May, while others tested from one academic year to the next -- usually a May to May testing.

The results are reported in terms of the testing period employed. Data are reported based on intervals of four, ten, and twelve months between pre- and post-tests. Data from six classrooms are not included beacuse they represent data collected from four different primary achievement scales which yield neither grade equivalent scores nor scores suitable for between group comparisons.

Four Month Testing Period

In one site, the data from seven classrooms were collected over a four month testing period -- January to April.

Table IV - 44

Pre- and Post-Test Results
From a Four Month Testing Period

Type	Grade	N	Pre-Test		Post-test	
			$\overline{X}$	SD	$\overline{X}$	SD
COP	5	52	4.59	1.09	5.21	1.14
Non-COP	5	25	4.30	1.5	5.21	1.59
Non-COP	6	30	5.23	1.7	5.53	1.83
COP	7	20	7.44	1.63	8.0	1.87

At the fifth grade level, students in both COP and non-COP classrooms were reading below the grade level placement, 4.59 and 4.3 respectively. Their average performance was identical at post-test time, 5.21. At the sixth grade level, the students were still below level at pre-test time, with a lower rate of gain than reported at the fifth grade. The scores reported at the seventh grade do not follow the previous pattern. The students in the program were already performing at normal levels, and they continued their normal progress throughout the seventh grade.

It is noteworthy that at grade five, students in both types of classrooms were performing below grade level at the start of the program and were still below level at the program's end. Since this program lasted only four months, the children appeared to be growing, during this period, at a rate considerably faster than might be expected, since normal growth during this period would be .4. These data indicated that the short-term growth rates were .50 and 1.2 respectively, both of which rates are higher than might normally be expected.

Ten Month Testing Period

These data cover a regular school year and thus a more appropriate interval between pre- and post-test. The testing period was from September to June of the same academic year.

Table IV - 45

Pre- and Post-Test Results From a Ten Month Testing Period

Type	Grade	N	Pre-test X̄	SD	Post-test X̄	SD
COP	3	39	2.98	1.26	4.24	1.79
Non-COP	3	41	3.30	1.26	4.41	1.37
COP	4	48	4.17	1.67	6.25	1.88
Non-COP	4	46	4.18	1.50	5.96	2.14
COP	6	25	5.90	1.57	6.80	2.0

With the exception of the students in the sixth grade, all teachers had children who started the school year close to the appropriate grade level placement. After one academic year of instruction, the children were at or above expectation for every grade, again with the exception of the sixth grade. Even here, the rate of growth was 0.9 months of increase for each month in the program. For children in a compensatory education classroom, a rate of growth in excess of 0.7 is frequently considered an improved rate of growth.

Twelve Month Testing Period

In an attempt to reduce the amount of instructional time allocated to testing, some districts have turned to testing only at the end of each academic year. Nineteen classrooms involved in this study utilized this type of testing plan. Since children's test performance may increase or decrease as a result of the time lag between June testing and the actual beginning of the next academic year, it was deemed more appropriate to provide the descriptive statistics of these data apart from the rest.

At grade two, the children began at the normal grade level placement, but little gain was evident one year later. At the third grade, classes began and ended at different levels. The COP teachers' children were performing at a level of 4.12 versus 2.72 for non-COP, yet the amount of gain was relatively even. Similar results occurred in the fourth and fifth grades. Only at the sixth grade level did the post-test scores indicate that the children were still below grade level at the program's termination.

Table IV - 46

Pre- and Post-Test Results
From a Twelve Month Testing Period

Type	Grade	N	Pre-test		Post-test	
			$\overline{X}$	SD	$\overline{X}$	SD
Non-COP	2	74	2.04	.47	2.28	.73
COP	3	23	4.12	1.51	4.79	1.80
Non-COP	3	20	2.72	.98	3.52	.95
COP	4	25	4.40	1.41	5.63	1.95
Non-COP	4	40	3.85	1.10	5.13	1.44
COP	5	27	4.96	2.03	6.15	2.62
Non-COP	5	63	4.62	2.43	5.54	2.43
COP	6	32	4.24	1.59	5.57	1.83
Non-COP	6	27	5.81	1.05	7.37	1.30

Another way to look at these data is to use a concept of historical regression. For this method the pre-test score is used as an estimate of the rate of progress. Where the pre-test mean is divided by the number of months in school as of the test date, the resulting rate may be extrapolated to yield an expected mean. The actual measured post-test mean then may be compared with the extrapolated mean. Likewise, the rate at pre-test may also be compared with the rate at post-test. No direct significance tests may be computed, but the descriptive comparisons are instructive.

In keeping with the earlier analysis, the data for four, ten, and 12 month pre-post periods are kept separate.

In the four-month pre-to-post test period, almost all grades, both COP and non-COP taught, posted gains. At the fifth grade, where it is possible to compare COP and non-COP, the non-COP exceed in performance. At sixth grade, the non-COP class maintained the same rate. The seventh grade COP class gained almost six months in a four month period.

Table IV - 47

Historical Regression Pre- and Post-Test Results: Four Month Testing Period

Type	Grade	Pre $\bar{X}$	Rate*	Expected $\bar{X}$	Actual Post $\bar{X}$	Rate**	Gain (Loss) Difference Between Actual/ Expected	Gain (Loss) Rate
COP	5	4.59	.85	4.93	5.21	.91	+.28	+.06
Non-COP	5	4.30	.80	4.62	5.21	.91	+.59	+.11
Non-COP	6	5.23	.82	5.56	5.53	.83	(-.03)	+.01
COP	7	7.44	1.01	7.84	8.00	1.02	+.16	+.01

* The rate is based on January or .4 months.
** The rate is based on April or .7 months.

In the ten month pre-to-post test period, all COP and Non-COP taught classes posted gains. At the third grade, the grade equivalent of the COP class far exceeded that of the non-COP class and markedly increased in its rate of gain. Marked differences are also observed in the fourth grade data where the COP group gained more than one year above its expected level of attainment.

Table IV - 48

Historical Regression Pre- and Post Test Results: Ten Month Testing Period

Type	Grade	Pre $\bar{X}$	Rate	Expected $\bar{X}$	Actual Post $\bar{X}$	Rate	Gain (Loss) Difference Between Actual/ Expected	Gain (Loss) Rate
COP	3	2.98	.99	3.87	4.24	1.09	+.37	+.10
Non-COP	3	3.30	1.10	4.29	4.41	1.13	+.12	+.03
COP	4	4.17	1.04	5.11	6.25	1.28	+1.14	+.24
Non-COP	4	4.18	1.05	5.13	5.96	1.22	+.83	+.17
COP	6	5.90	.98	6.78	6.80	.99	+.02	+.01

In the twelve month pre-to-post test period, the second grade (non-COP) and both COP and non-COP third grade classes showed losses. The losses at the third grade level were far greater for the COP classes than the non-COP class.

At the fourth, fifth and sixth grade levels, COP classes all exceeded the non-COP classes. The most dramatic difference occurred at the fourth grade level where more than a gain of one year above the expected gain was posted. At the sixth grade, the higher gain of COP compared to non-COP classes is small in magnitude.

Table IV - 49

Historical Regression Pre- and Post Test Results: Twelve Month Testing Period

Type	Grade	Pre $\overline{X}$	Rate	Expected $\overline{X}$	Actual Post $\overline{X}$	Rate	Gain (Loss) Difference Between Actual/ Expected	Gain (Loss) Rate
Non-COP	2	2.04	1.02	3.06	2.28	.76	(-.78)	(-.26)
COP	3	4.12	1.37	5.48	4.79	1.20	(-.69)	(-.17)
Non-COP	3	2.72	.91	3.60	3.52	.88	(-.08)	(.03)
COP	4	4.40	1.10	4.40	5.63	1.12	+1.23	+ .02
Non-COP	4	3.85	.96	4.80	5.13	1.03	+ .33	+ .07
COP	5	4.96	.99	5.94	6.15	1.03	+ .21	+ .04
Non-COP	5	4.62	.92	5.52	5.54	.92	+ .02	.00
COP	6	4.24	.71	4.97	5.57	.80	+ .60	+ .09
Non-COP	6	5.81	.97	6.79	7.37	1.05	+ .58	+ .08

Table IV - 50

Historical Regression Analysis Summary

	4 month	10 month	12 month	Overall
Grade 2	NA		NA	NA
Grade 3		COP	Non-COP	?
Grade 4		COP	COP	COP
Grade 5	Non-COP		COP	?
Grade 6	NA	NA	COP	COP

Absence, Tardiness, and Disciplinary Referrals

While behavioral indicators are always difficult to attribute to a program cause, the study team believed it was important to secure some measures of student behavior which might be affected by teacher behavior. As stated previously, if the COP teacher, served as a more appropriate role model, then it could be conjectured that the student's behavior should be more positively reflected in fewer tardinesses, higher attendance, and fewer disciplinary referrals. To gather these data, each teacher in the project was asked to complete a form designed by NCTL staff. Since this form was also used to collect achievement data, many of the teachers who did not have achievement data to report failed to return the data on attendance, et al. Of the 1,650 pieces of data, seven of the 15 sites did return data from a total of 110 classrooms. Tables IV - 51 through 53 report these results.

For the absence criterion, students of teachers in the COP group had an average rate of 9.514 days absent. In contrast, non-COP students had a mean average of 8.878 days absent. The difference was not significant at the .05 level of significance.

Table IV - 51

Absence Rates

Type	N	$\overline{X}$	SD
COP	849	9.514	10.513
Non-COP	801	8.878	10.830

F = 1.46 t = 1.21

The results for tardiness showed that students in the COP program had a mean of 1.515 days tardy, as opposed to non-COP students having an average of 1.547 days of being late. Here, too, there was a slight reported difference between the two groups, but the difference was not statistically significant.

Table IV - 52

Tardiness Frequency

	N	$\overline{X}$	SD
COP	849	1.515	4.798
Non-COP	801	1.547	4.660

t = 0.1385

F Ratio: 0.0192

F Probability = 0.617

When the discipline referral data were analyzed, it was found that students of teachers in COP had an average rate of 0.112 discipline referrals for the school year, while students of teachers not in the COP program had a mean of 0.259 discipline referrals. The difference, though slight, was statistically significant at the .05 level. Students of teachers from COP were less likely to have been referred for disciplinary purposes than students from a non-COP classroom.

Table IV - 53

Discipline Referrals

	N	$\overline{X}$	SD
COP	849	0.112	0.771
Non-COP	801	0.259	1.698

F Ratio: 5.005

F Probability = 0.020

t = 2.3025

On all three of the items -- absences, tardiness, and disciplinary referrals -- the differences are small, and, perhaps, not especially meaningful. This is so, even for the one item, disciplinary referrals, where the difference, although small, is statistically significant. It is impossible to know whether a lesser number of disciplinary referrals, itself, means the teacher maintains discipline more effectively.

Limitations

As previously stated, this study is intended to assess "the teachers' performance and the effect upon pupils of first year COP graduates." Had this assessment taken place in an isolated, ridgidly controlled laboratory setting, it would have been a difficult job. Occurring as it did in a wide variety of highly diversified, real-life school situations, it was an even more difficult and complicated task. As such, it was of a piece with the evaluation of almost all educational programs imposing complex problems which have yet to be fully resolved by any investigator. For completely reliable evaluation instruments do not yet exist. Indeed, there is only the beginning of consensus as to what area or areas of investigation provide suitable indices of success.

Let us look, for example, at one presumably controllable aspect of the study, the area of pupil growth as measured by the administration of standardized achievement tests. Yet, even here, uncontrollable problems are evident. Some of the more obvious are: 1) teachers who "teach to the test", thereby invalidating the results; 2) teachers who believe their pupils have more important problems (e.g. social or emotional) and who therefore do not concentrate heavily on teaching in the areas to be evaluated; 3) the ever-present problem, identified by Ryans, of "...the difficulty of adequately controlling external factors in order to provide reasonable assurance that the hypothesized product is truly a product of the criterion behavior rather than that of a wide range of uncontrolled conditions occurring before and during the criterion behavior."[1] This, of course, does not even touch on the serious debate as to the validity of standardized tests.

Thus, even the most widely used means of educational program evaluation -- standardized measures of pupil academic achievement -- appears grossly inadequate; measurement in other areas is even less adequate. We were therefore faced with the necessity of conducting our assessment across a wide range of areas, no one of which would provide conclusive data; however, taken together, they provide, we believe, the basis for drawing some conclusions as to the performance and relative effectiveness of COP graduates.

In the preliminary development of an evaluation design, the possibility of establishing a control group of teachers who were not COP-trained seemed to indicate that a classical experimental design approach might be feasible. The traditional, classic approach would consist of comparing a "treated" group (in this case, COP graduates) to a "non-treated" group (teachers who did not have the COP experience) to assess whether or not any systematic differences existed which might be attributable to group membership.

Despite the temptation to develop designs which are truly experimental, it was necessary to work with the situation as it existed and, since no control was possible over independent variables, this study could be no more than an ex post facto, causal-comparative study including all of the inherent complications characteristic of such design.

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[1] David G. Ryans, Characteristics of Teachers (Washington, D.C., 1960)

A few of these difficulties are as follows:

(1) The difficulty in being certain that the relevant factor is actually included among the many factors under study.

(2) The complication that no single factor is the cause of an outcome but that some combination and interaction of factors exist together under certain conditions to yield a given outcome.

(3) The fact that two, or more, factors are related does not necessarily imply a cause and effect relationship. They may be simply related to an additional factor not recognized or observed.

(4) Comparative studies in natural situations do not allow controlled selection of subjects. Locating existing groups of subjects who are similar in all respects except for the exposure to one variable is extremely difficult.

Compounding the problem was the fact that the investigators were also involved with a sampling bias. The fact that inclusion of a particular school system had to be based upon voluntary participation sets it uniquely apart and may strongly prejudice our sample.[2] For example, could we with any assurance maintain that the performance of COP-trained teachers in the respondent schools which elect to cooperate is indicative of the performance of a larger population of COP-trained teachers?

We could find out about the performance of COP-trained teachers as compared to the performance of non-COP trained teachers within a particular school, but a more generalized application of findings must be considered in light of this sampling restriction. Conclusions from this study must be tempered as a consequence of the following limitations of it.

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[2] A discussion of the selection process and the efforts to mitigate this problem may be found in Chapter II, above.

(1) This study dealt solely with events during the 1974-1975 academic year.[3]

(2) The selection of sites was limited by three selection pre-requisites:

a. Participation in the study was on a voluntary basis, and COP administrators (and the local district) could freely elect to participate or chose not to participate,[4]

b. A minimum of ten COP graduates had to be employed as teachers, at each one of the fifteen sites which was eventually to be selected;[5] and

c. In order to assure a broad geographic representation, at lease one site from each of the ten USOE regions was included in the study

These three pre-requisites necessitated that the study be confined to a stratified, random sample.[6]

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[3] This is not only to state the obvious but also to call attention to the fact that a particular wave of COP graduates was studied. While their similarity to the total universe of all COP participants (see Chapter II, Part B, above) suggests that their performance is not dissimilar from that which would be discovered from the study of earlier or later waves of graduates, there is no firm data on this.

[4] It should be noted, however, that in only one instance where a site met all criteria, and was selected for inclusion in the study, did it then have to be dropped, and this by decision of the study team. (See Chapter II, Part B, above).

[5] This was purposely modified to accomodate two sites with rather unique COP graduate populations: the veterans' program in New Orleans, and the program at Tempe, Arizona which had a large number of American Indian participants.

[6] As discussed above, the cohort of the COP participants included in the study closely resembled the entire universe of COP participants and graduates in terms of sex, age, ethnicity, and other personal characteristics.

(3) The fact that, in some instances, standardized tests are given only on specific grade levels and were, consequently, not always available for children in classrooms of all the teachers in the study was a distinct limitation.

(4) The data analysis to date has been limited to straight forward calculations. For example, all data have been analyzed on the basis of COP-trained or non-COP trained teachers. Given the differences between the two groups in terms of age and ethnicity, the data must be reanalyzed as to these (and perhaps others) variables.[7] Similarly, the extent to which differences are a function of large differences at a few of the sites has not been fully explored. Nor have correlations between various scores been calculated.

(5) Even beyond the known differences between the COP and "control" groups, there were others which may have been even more significant. One example is found in the processes by which the two groups had been selected for employment: the COP graduates from within the "lower ranks" of the school's hierarchy and in fulfillment, in many cases, of long-standing commitments by school districts to hire them, and the non-COP first year teachers as a result of spirited competition in which as many as 50 or 100 persons competed for single teaching posts.

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[7] It should be noted, however, that the selection of participants who were likely to be older and non-white was central to the COP design.

We have indicated at various points the efforts taken to mitigate these limitations. Of course, in some instances, where mitigation was not possible, the limitations can only be noted and the conclusions tempered. And, as with limitation 4, above, additional analysis is necessary and final conclusions must be held in abeyance pending these analyses.[8]

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[8] The New Careers Training Laboratory is performing two additional pieces of work in addition to the analyses noted in limitation 4, above: a follow-up at the fifteen sites included in the present study to look at these teachers in their second year and the initiation of the basic study at additional sites.

Discussion

Three sets of data on COP-trained and non-COP trained first-year teachers were collected at each of the 15 sites. These centered on the teachers themselves (The Person), their teaching activities (The Process), and the results as they affected the children (The Product). Along each of these axes of data inquiry, a variety of instruments was used so as to obtain a multifaceted picture of the two teacher cohorts. In effect, a "Rashomon" picture was sought.

The potential results of the inquiry could be grouped under four headings: no differences between the two groups, sharp and consistent differences between the two groups, small but consistent differences, and/or irregular differences. The pattern ultimately displayed would be the result of the "real" differences between the two groups and the accuracy of the instruments in capturing and describing these differences. Because we sought a multifaceted picture of those studied and because of our skepticism as to the sensitivity of the instruments available, several instruments were used. Given a variety of instruments which had been developed at different times and places by different people for different purposes, a consistent showing across them would presumably be more convincing in the aggregate than would be an irregular pattern.

The study yielded a consistent pattern. That is, where statistically significant differences were found on each instrument as a whole, they favored the COP-trained teachers. Where statistically non-significant differences were found on each instrument as a whole, they favored the

COP-trained teachers. Further, on the subparts of the various instruments where statistically significant differences were found, in all instances they favored the COP-trained teachers. Only on subparts of two instruments where differences were statistically non-significant was there a finding which favored the non-COP trained teachers.

Before analyzing these data in terms of the three axes of measurement noted above, let us briefly summarize the findings. (Chapter IV, above, discusses the limitation of these data and should be read in conjunction with these findings.)

The Person

The COP-trained teachers included slightly more males as compared with the non-COP trained (29% and 23%, respectively), were significantly older (mean ages of 35 and 26, respectively), although the two groups were more alike in terms of other non-whites (20% and 15%, respectively).

In terms of experience in their respective teacher education programs, both groups were predominantly in Elementary Education and both performed equally as well as measured by grades. The COP-trained teachers were more satisfied with their preparation (91% compared with 71%), and more of them both had enrolled (34% and 27%, respectively) and planned to enroll (88% and 78%, respectively) in graduate education.

In terms of attitudes, on all eight scales of the Gordon Personal Inventory and Personal Profile, the COP-trained teachers scored higher, with statistically significant differences on the scales for Original Thinking, Vigor, Ascendancy, and Sociability. There was no significant difference between the two groups on the Minnesota Teacher Attitude Inventory, although the COP-trained teachers had more "right" and fewer "wrong" scores and a higher overall attitude score. Thus, the Null Hypotheses postulating no significant differences ragarding personal attitudes and attitudes toward schooling are proven false.

The Process

On all three factors of the Ryans Classroom Observation Record, the COP-trained teachers scored higher than did the non-COP trained teachers; on each of the factors, as well as overall, the differences were statistically significant. Similarly, on the Flanders Interaction Analysis Categories, there was more student talk or responsive teacher talk in the COP-trained teachers' classrooms, while in the classrooms of the non-COP trained teachers, there was more teacher-initiated talk. According to Flanders' data, responsive teacher talk and student talk are more desirable and more highly correlated with positive student performance.

On each of the three scales of the Principal Questionnaire, teacher supervisors ranked more COP-trained teachers than non-COP trained superior as compared with other first-year teachers they had supervised. On all three scales, and overall, the differences in favor of the COP-trained teachers were statistically significant. Again, the Null Hypothesis as to there being no significant difference between COP-trained and non-COP trained teachers is proven false.

The Product

Here assessment was made of the children's self-concept, their parents' view of the child's attitudes, and the child's performance in school. On the Piers-Harris Self-Concept Scale, the children in the classrooms of the COP-trained teachers ranked higher, and the difference was statistically significant. Overall, the parents of children in classrooms of COP-trained teachers ranked their children's attitudes as more favorable than did the parents of the children in the non-COP trained teachers' classrooms. The differences were statistically significant. Thus, the Null Hypothesis as to there being no significant difference between the two cohorts of children in terms of their own self-concept and their parents' view of their attitudes was proven false.

The variety of achievement tests used and testing periods involved preclude any hard summary judgments. In combining classrooms where pre- and post-tests were given with longest time intervals, there were no differences at grades three and five; at grades four and six there were statistically significant differences and here they favored the classrooms of the COP-trained teachers. The data on absences and tardiness showed no statistically significant differences; the differences, such as they were, favored the COP-trained teachers in the case of tardiness and the non-COP trained teachers in the case of absences. In the matter of disciplinary referrals, a small but statistically significant difference favored the COP-trained teachers.

To repeat, where differences on overall scales occurred between COP and non-COP trained teachers, whether the differences were statistically significant or not, they, in each case, favored the COP-trained teachers. On all subscales, statistically significant differences always favored the COP-trained. Only on two subscales where differences were not statistically significant did the scores favor the non-COP trained.

The Data Overall

It may be helpful to present in a tabular manner the instruments and subscales, noting where the scores favored COP or non-COP trained teachers, and whether the differences were statistically significant.

TABLE VI - 1

Summary of Differences Between COP- and Non-COP Trained Teachers

Item	Statistically Significant Difference Favoring	Difference (But Not Statistically Significant) Favoring	No Difference
Gordon Personal Profile and Inventory			
--Cautiousness		COP	
--Original Thinking	COP		
--Personal Relations		COP	
--Vigor	COP		
--Ascendancy	COP		
--Responsibility		COP	
--Emotional Stability		COP	
--Sociability	COP		

Item	Statistically Significant Difference Favoring	Difference (But Not Statistically Significant) Favoring	No Difference
Minnesota Teacher Attitude Inventory			
--"Right"		COP	
--"Wrong"		COP	
--Overall Attitude		COP	
Ryans Classroom Observation Record			
--Factor X (Understanding, Friendly vs. Aloof, Egocentric)	COP		
--Factor Y (Responsible, Systematic vs. Evading, Unresponsive)	COP		
--Factor Z (Stimulating, Imaginative vs. Dull, Moribund)	COP		
Flanders Interaction Analysis Categories			
--Teacher Initiated Talk		COP	
--Teacher Responsive Talk		COP	
--Student Talk		COP	
Principal's Questionnaire			
--Factor One (Teaching Characteristics)	COP		
--Factor Two (Attitudes)	COP		
--Factor Three (Leadership Skills)	COP		
--Overall	COP		
Piers-Harris Self-Concept Scale	COP		
Parent Questionnaire			
--Factor 1 (Children's Attitudes toward school)	COP		
--Factor 2 (Children's Attitudes toward activity in the classroom)	COP		
--Factor 3 (Children's Attitudes toward reading)		Non-COP	
--Overall		COP	

Item	Statistically Significant Difference Favoring	Difference (But Not Statistically Significant) Favoring	No Difference
Achievement Tests			
--Grade 3			X
--Grade 4		COP	
--Grade 5			X
--Grade 6		COP	
Absence, Tardiness and Disciplinary Referrals			
--Absences		Non-COP	
--Tardiness		COP	
--Disciplinary Referrals	COP		

Visually, the sheer repetition of the indication of scores favoring the COP-trained teacher is overwhelming. In a sense, too much so, as many of the instances where there are non-statistically significant differences, the differences are small. Even in many of the cases where the differences are statistically significant -- and here all such differences favored the COP-trained teachers -- the differences, nonetheless, were small.

In the aggregate, nonetheless, the data reveal a series of consistent more positive scores by the COP-trained teachers. They possess a more favorable set of attitudes. They demonstrate in the classroom the behaviors considered to be the more desirable ones for children's learning. Their supervisors rank them more favorably. The children in their classes think better of themselves, and with the exception of the score on one subscale, the children's parents believe those in the classrooms of the COP-trained teachers have better attitudes. The slight difference in achievement test scores favors the COP-trained teachers' students.

The Factors Related

To this point, we have treated the data collected along each of three axes of inquiry as if they were separate and independent phenomena. Of course, while separate, they are about the same people. Indeed, it is just the issue of whether teacher attitudes (investigated as part of Axis 1) relate to classroom behavior (Axis 2) relate to impact upon children (Axis 3) which is central to any inquiry concerning teacher selection, training, and performance. In this regard, then, it is not simply that the COP-trained teachers rank more positively on a variety of instruments. Rather, it is the pattern and relationships of these differences which are the most revealing.

This pattern is particularly evident in the nature of teacher-student interaction. In comparing the classrooms of the COP-trained teachers with those of the non-COP trained, there appear to be two different teaching styles and two different student response patterns. On the one hand, the non-COP trained teachers engage in more teacher-initiated interaction -- lecturing, a question and short answer dialogue; also, there are longer periods of silence in their classes. On the other hand, the COP-trained teachers interact more directly with their pupils, elicit more and longer responses from the students, and respond more to students' comments when they arise. In short, the classrooms of the COP-trained teachers show more responsive teacher and pupil verbal interactive exchange than those of the non-COP trained. The COP-trained teachers appear to be more accepting and encouraging, which in turn conduces toward more student verbal initiative, fuller student responses, and more sustained interchanges. These are characteristics which the pertinent research indicates are more desirable and more highly correlated with better student performance.

This study yields data which reinforce this pattern. The personal characteristics and attitudes of the COP-trained teachers were more positive and were more like those which correlate highly with student performance. And in terms of the evidence in this study as to impact on students, we find that those students in the classrooms of the COP-trained teachers had more positive attitudes about themselves, that their parents viewed their attitudes as more favorable, and their performance was better. This pattern was reinforced by the more positive assessment of the COP-trained teachers by their principals.

In sum, then, it is a pattern of consistent, if often small, differences which favor the COP-trained teacher. The differences fit together in a coherent whole. It seems fair to assert that there is a clear if not overwhelming picture. It is that the COP-trained teachers have more positive qualities, display in the classroom both the results of these qualities and the behaviors correlated more highly with pupil success, and receive higher ratings from their supervisors. The children in the classrooms rate themselves and are rated by their parents more positively. They perform better. It is not a heavily weighted picture; rather, it is one of a consonance of tones along one end of the spectrum.

Policy Implications

A study such as the one reported here can lead its authors into two opposite directions, each with both merit and failing, regarding the possible policy implications of the findings. On the one hand, one can recognize that it is but a single study, limited both in that regard, as well as its intrinsic shortcomings. This path leads to caution, if not timidity, in drawing policy implications, let alone making recommendations. On the other hand, given the mass of the data and the findings which are persuading if not absolutely persuasive, one is tempted to build entire sets of policy recommendations.

This study does warrant the drawing of implications and the proffering of recommendations. In doing so, however, we rely not only on the study's findings but on the extensive data on the Career Opportunities Program collected by the New Careers Training Laboratory, and on analyses of differing parts of the program conducted by both NCTL staff and others.

First, and overall, both the findings of this study and other reports show that low-income adults, long away from formal education, can be recruited successfully to work in the schools, can do that work with benefit to children, can combine that work with successful performance as college students, and, as a result, can become effective teachers of low-income children. In sum, the concept of the Career Opportunities Program is one which can be and, in this instance, has been successful.

In an assessment of COP midway in its course, William Smith, successor to Don Davies at USOE's Bureau of Educational Personnel Development, labeled COP a "mid-range demonstration," an effort which brought together "a series of program ideas found successful in earlier more limited efforts, which sought to demonstrate the potential in their combination and expansion."[1] Among earlier ideas brought together in COP was the broad "new careers" concept put forth by Pearl and Riessman.[2] They asserted that persons recruited from among the poor, when simultaneously provided jobs, training, and education, could become a new kind of professional. In a sense, COP is an expression of that concept and this study the first large scale test of the hypothesis undergirding the new careers concept.[3]

More specifically, COP took up ideas such as: the potential of paraprofessionals to make a direct contribution to the delivery of human services, in this instance to the learning of low-income children; the usefulness of staff differentiation designs, particularly when combined with career advancement; the value of combining both work and study; the field-based focus of teacher education; the involvement in relationships built upon parity of all the central parties (viz. school, university, and community people) to the professional preparation enterprise. While the findings of this study do not lend themselves to the making of judgments as to the relative efficacy of particular parts of the COP design, the findings overall do indicate that the COP principles have worked. That is, it has recruited, selected, trained, and graduated low-income adults who have, at least among those included in this study, become successful teachers of low-income children. And, as indicated in the body of the report, the COP-trained teachers who were participants in this study closely resemble the full range of COP participants throughout the country and one can thus confidently extend the judgment from those involved in this study to the broader COP universe.

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[1] William Smith, "COP: A Progress Report on a Mid-Range Demonstration," COP Bulletin I, 3 (1973).

[2] Arthur Pearl and Frank Riessman, New Careers for the Poor (New York: The Free Press, 1965).

[3] The performance of paraprofessionals has been assessed in earlier studies. For a report on these, see Alan Gartner, Paraprofessionals and Their Performance (New York: Praeger, 1971).

At a time when teacher vacancies are fewer, it becomes all the more crucial that the persons employed as teachers perform well. In addition, given the public investment in teacher education, it is important that the persons so trained do become and remain teachers. Already with roots in their community, COP-trained teachers are more likely to remain there and to remain in teaching.

What is most essential in light of the findings of this study is the recognition that among the vast pool of low-income adults are many persons, who given realistic opportunities in a carefully designed program, can make powerful social contributions, in this instance, as teachers. As programs to staff the schools are developed, as plans to train persons to become teachers materialize, indeed, as persons are recruited to higher education at large, the potential of low-income, frequently minority adults, long absent from formal school but powered by their own motivation in the context of realistic opportunity, should not be ignored. The issue is not whether the Career Opportunities Program, as such, should be done again -- although few such efforts have been as successful. It is the program intent, the program design, and the program ethos which warrant extension and development.

APPENDIX MATERIAL PROVIDED UPON REQUEST TO:

NEW CAREERS TRAINING LABORATORY
184 Fifth Avenue
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A COMPARATIVE STUDY OF

CAREER OPPORTUNITIES PROGRAM GRADUATES AS FIRST-YEAR TEACHERS

Executive Summary

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Synopsis

A comparative study was undertaken assessing the performance of first-year teachers trained through the U.S. Office of Education Career Opportunities Program and a matched group of first-year teachers in the same school building and grade, but not trained through the Career Opportunities Program. The study was conducted during the 1974-75 school year at 15 sites across the country, which were drawn as a stratified sample of the 132 Career Opportunities Program projects nationwide.

A variety of instruments were used in order to obtain a comprehensive picture of the participants in terms of personal characteristics, attitudes, classroom behavior, and impact upon pupils.

The data fall into a consistent pattern. The Career Opportunities Program-trained teacher was more likely to have a more positive attitude toward teaching, be more socially oriented, have more vigor, be more original in thought, and receive a higher rating from the principal based on her/his work in the classroom. He or she was more supportive of student-initiated talk and less likely to ask questions soliciting rote responses. The children who the COP-trained teacher taught had a more positive self-concept, their parents viewed more positively their attitudes toward school, and the children performed better on standardized achievement tests. Although many of the differences between the COP-trained and non-COP trained teachers are small, the pattern of differences is clear and consistent.

Introduction

The Career Opportunities Program (COP) was a national effort of the U.S. Office of Education to employ, train, and upgrade educational paraprofessionals in schools serving low-income children. Established in 1970 under the Education Professions Development Act of 1967, by its scheduled termination in June 1976, it will have had some 150 local projects in 48 states, including Alaska and Hawaii, and the Commonwealth of Puerto Rico.

Three basic purposes of the program, among others, were to:

1. bring to schools personnel different from those already employed as teachers;
2. provide training, education, and career advancement for such people, and
3. affect the learning of children from low-income families.

During COP's seven years of operation at a federal expenditure of approximately $129,390,000, over 14,000 participants received on-the-job training and college-based education. Grants usually were made to local educational agencies, where the paraprofessionals were employed and where they received inservice training, while institutions of higher education provided a college degree program through a subcontract with the school system. In the course of successful participation in the program, the paraprofessional participants mounted and advanced on a career ladder, earned a baccalaureate degree, and became eligible for a teacher's license. It is estimated that more than 4,000 COP participants had done this by mid-1975.

In July 1974, the New Careers Training Laboratory, Queens College, began an evaluation study of COP under a grant from USOE. The purpose of the study was to focus on COP graduates serving as first-year teachers within local school districts. While each district having a COP project was responsible for an ongoing evaluation of its project, none were responsible for the evaluation of the graduate as a teacher. The present study, then, is the first to look at this aspect of the Career Opportunities Program -- the graduate as teacher.

Procedure

All 132 then-operating COP projects were canvassed in July 1974. Each project was requested to report the number of COP graduates, the total then employed in the district as teachers, and the school district's willingness to participate in the planned study. From the pool of 60 positive responses to an initial questionnaire and subsequent follow-up, 15 sites were selected to reflect the ten federal geographic regions and the diversity of COP models, and to provide some balance between urban and rural school districts. The 15 sites are thus a stratified sample of the full COP universe which shows high congruence with the national COP project profile in terms of participant characteristics and project activities.

At each of the 15 sites, a sample of ten COP graduates was randomly selected from the pool of COP graduates employed there as first-year teachers. At each of the local schools where one or more of the ten COP graduates were teaching, first-year teachers who were not COP graduates were selected as a control group and matched with the COP graduates on the basis of being first-year teachers working in the same school building and teaching the same grade.

Instrumentation

Data were collected along three axes: the person, the process, the product.

Data on the person consisted of personal, demographic, and teacher training information, as well as those gathered by the Gordon Personal Profile and Personal Inventory and the Minnesota Teacher Attitude Inventory.

Data on the teaching process were gathered by the use of an administrator's comparative rating scale developed by project staff, the Flanders Interaction Analysis Categories, and the Ryans Classroom Observation Record.

Data on the product -- the effect upon the student -- were gathered by three instruments: the Piers-Harris Self-Concept Scale; a Parent Questionnaire designed by staff to elicit parental judgments about children's attitudes; and an individual data collection sheet which collected achievement test data on each student in the class of one of the teachers being studied, as well as information on attendance, tardiness, and disciplinary referral.

A variety of instruments along each of these axes was used to obtain a multifaceted picture of the two teacher cohorts, the COP-trained and the non-COP trained. In effect, a "Rashomon" picture was sought.

The Findings

Axis 1 - The Person

The COP-trained teachers were older, more likely to be Black, and slightly more likely to be males as compared with the non-COP trained. (For COP and non-COP, respectively, the mean age was 35 and 26, 52% and 26% were Black, and 71% and 77% were female.) The two groups did about as well in college, as measured by grades, although the COP-trained group expressed greater satisfaction with their college program. And a higher percentage of COP-trained teachers had enrolled and planned to enroll in post-baccalaureate education.

The COP-trained teachers had more positive attitudes as expressed on all eight scales of the Gordon Personal Inventory and Personal Profile, as well as the Minnesota Teacher Attitude Inventory. The differences were significant statistically on the Gordon scales for Original Thinking, Vigor, Ascendancy, and Sociability.

Axis 2 - The Process

On both measures of classroom activity used in this study, the COP-trained teachers performed in a more desirable manner. In their classrooms, there was more interchange between teacher and student, the students' talk was more responsive and extended. The interaction which more frequently characterized the classrooms of the COP graduates is, according to the pertinent research, more highly correlated with positive student performance. Principals who supervised the two groups of teachers compared the COP-trained teachers more favorably with other first-year teachers they had supervised.

Axis 3 - The Product

The children in the classrooms of the COP-trained teachers had a more positive self-concept, and their parents ranked their attitudes toward school more positively than did parents of children in the classrooms of the non-COP trained teachers. Although comprehensive achievement test data were not obtainable, on the achievement test data which were available, when differences were present, they favored the children in the classrooms of the COP-trained teachers. Finally, the data regarding tardiness and disciplinary referrals were more positive for the children in the classrooms of the COP-trained teachers, while attendance data favored the non-COP trained teachers.

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In sum,

--where statistically significant differences were found on each instrument as a whole, in each case they favored the COP-trained teachers;

--where statistically non-significant differences were found on each instrument as a whole, in each case they favored the COP-trained teachers;

--where statistically significant differences were found on subscales of instruments, in each case they favored the COP-trained teachers; and

--where statistically non-significant differences were found on subscales of instruments, in all but two cases they favored the COP-trained teachers.

The Meaning

We found a series of consistent, although often small, more positive scores by the COP-trained teachers, as compared with the matched non-COP trained teachers in the same schools. The COP-trained teachers possess a more favorable set of attitudes. In the classrooms, they demonstrate behaviors considered to be the more desirable ones for children's learning. Their supervisors rank them more favorably. The children in their classrooms think better of themselves and, with the exception of the score on one subscale, the children's parents believe those in the classrooms of the COP-trained teachers have better attitudes. And what slight differences there are in achievement test scores favor the COP-trained teachers' students.

It is not only this consistent set of findings but their pattern which merit attention. In comparing the classrooms of the COP-trained teachers with those of the non-COP trained, one finds two different teaching styles and two different student response patterns. On the one hand, the non-COP trained teachers engage in more teacher-initiated interaction -- lecturing and questions and short answer dialogue. On the other hand, the COP-trained teachers interact more directly with their students, elicit more and longer responses from the students, and respond more to students' comments when they arise. This more accepting and encouraging classroom behavior conduces toward more student verbal initiative, fuller responses, and more sustained interchanges. According to the pertinent research, these characteristics of classroom interaction are more desirable and correlate more highly with better student performance. Our own findings indicate this to be the case based on our assessment of the students' self-concept, parents' assessment of their attitudes, and their achievement.

We have, then, a pattern of consistent, if often small, differences which favor the COP-trained teacher. These differences fit together in a coherent whole.

Summary of Differences Between COP- and Non-COP Trained Teachers

Item	Statistically Significant Difference Favoring	Difference (But Not Statistically Significant) Favoring	No Difference
Gordon Personal Profile and Inventory			
--Cautiousness		COP	
--Original Thinking	COP		
--Personal Relations		COP	
--Vigor	COP		
--Ascendancy	COP		
--Responsibility		COP	
--Emotional Stability		COP	
--Sociability	COP		
Minnesota Teacher Attitude Inventory			
--"Right"		COP	
--"Wrong"		COP	
--Overall Attitude		COP	
Ryans Classroom Observation Record			
--Factor X (Understanding, Friendly vs. Aloof, Egocentric)	COP		
--Factor Y (Responsible, Systematic vs. Evading, Unresponsive)	COP		
--Factor Z (Stimulating, Imaginative vs. Dull, Moribund)	COP		
Flanders Interaction Analysis Categories			
--Teacher Initiated Talk		COP	
--Teacher Response Talk		COP	
--Student Talk		COP	
Principal's Questionnaire			
--Factor 1 (Teaching Characteristics)	COP		
--Factor 2 (Attitudes)	COP		
--Factor 3 (Leadership Skills)	COP		
--Overall	COP		

Item	Statistically Significant Difference Favoring	Difference (But Not Statistically Significant) Favoring	No Difference
Piers-Harris Self-Concept Scale	COP		
Parent Questionnaire			
--Factor 1 (Children's Attitudes toward School)	COP		
--Factor 2 (Children's Attitudes toward Activity in the Classroom)	COP		
--Factor 3 (Children's Attitudes toward Reading)		Non-COP	
--Overall		COP	
Achievement Tests			
--Grade 3			X
--Grade 4		COP	
--Grade 5			X
--Grade 6		COP	
Absence, Tardiness, and Disciplinary Referrals			
--Absences		Non-COP	
--Tardiness		COP	
--Disciplinary Referrals	COP		